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Teachers College
RECORD

October 1930

THE OUTLOOK IN SECONDARY EDUCATION

I. PROGRESS AND PITFALLS*

By SIR MICHAEL SADLER
C.B., K.C.S.I., LITT.D., LL.D.
Master of University College, Oxford

IT HAS been my good fortune to know rather well during the last forty-five years a large number of young men and a considerable, though smaller, number of young women who have, in successive generations, received in their various countries secondary education in schools of different types. The enlargement of opportunities for secondary education has been one of the distinctive marks of the social changes which have taken place within living memory. The human product of those changes ought to be in the foreground of our thoughts when we review the intellectual and political forces which have colored during recent years the educational outlook of abler minds in all countries of the world.

Full of encouragement for the future are, on the whole, the impressions which personally I have formed of the effects of modern secondary education upon the bearing, the disposition, and the character of the young. I should be very loath to see the young people who are now growing up in all countries under the present influences

* This is the first of three lectures in the Julius and Rose Sachs Foundation Lectures for 1930, delivered before the faculty and students of Teachers College on March 26, 27, and 28, 1930. The second and third lectures, entitled "Youth and Tests" and "A Liberal Education," will appear in subsequent numbers of THE RECORD—Editor.

of secondary education replaced by revivals of the past. The great educational changes which have taken place in all countries seem to me (with the exception of Russia, of which I have no personal knowledge) to have been on the whole for the good both of young people and, in general, of the communities to which they belong. In address, in candor, in frankness of observation and judgment, in range of perception—though not always in power of sympathy—they seem, so far as my experience allows me to judge, better, more fully developed, more adequately equipped for life, than were their predecessors of a corresponding age forty years ago.

I realize, of course, how limited is the experience of any single observer and how many factors must be taken into account by one who ventures to make such a comparison as this. But, after weighing carefully both sides of the account, I find that my own judgment is decisive. It is right, however, that in submitting to you this conclusion I should, at the same time, trace the boundaries of the personal experience upon which it is based. The wide acquaintance among my contemporaries, which was given to me by school days at Winchester and Rugby and by undergraduate days at Oxford, was enlarged by visits to (and in some cases by intimate knowledge of) some two hundred towns, large and small, in all parts of England during the years 1885-95, when I was Secretary of the Oxford University Extension Delegacy. In those years I got to know well a large and representative number of young men and women who had been educated at secondary schools and I also had an opportunity of becoming rather well informed about the work of a considerable number of English schools. In the eight years following, as Director of Special Inquiries at the Education Department of England and Wales, I enjoyed opportunities, which only one of my contemporaries shared, of studying English education at a historic crisis of change, of visiting France, Belgium, Germany, and the United States in the course of inquiries, and of forming many intimate friendships which have never been impaired. When I was Professor of the History and Administration of Education at the University of Manchester, from 1903 to 1911, hundreds of young men and young women from secondary schools in the North of England were among my pupils; and during the same years, in conjunction with a small group of experienced colleagues all of whom had close knowledge of

English secondary schools and of their product, I had the privilege of studying on behalf of a large number of our County Councils and County Boroughs the state of secondary and higher education within their boundaries, and of making for their consideration plans for such extension and improvement as the powers conferred on those authorities by the Education Act of 1902 made possible and advantageous. These investigations covered about one-ninth of the population of England. From 1911 to 1923 I had the happiness of serving as Vice-Chancellor of the University of Leeds and of coming into personal contact with thousands of young people from the secondary schools of the North, with those who had taught them, and with the administrators who were in part responsible for the welfare of their schools. Thus I have seen English secondary education and the young people trained by it during the years which preceded the momentous changes in its organization, as well as in the first stages of its enlargement, and also both during the War and after it. In addition to this, for nearly two years, in 1917-19, opportunities of getting to know the students who had passed through Indian high schools, as well as of becoming intimate with many Indian families and educational administrators both British and Indian, fell to me as President of the Calcutta University Commission. Since 1923, as Master of University College, Oxford, I have renewed my former close acquaintance with Oxford and with all that Oxford implies through its relationships with the rest of the country and with other lands. Alongside of this a very wide field of further observation has been opened to me through my membership on the Advisory Committee on Education which is appointed by the Secretary of State for the Colonies. Through this experience my mind is filled with a gallery of portraits of young people—English, Scottish Welsh, and Irish; from the United States, Canada, Australia, and South Africa; Scandinavian, German, French, Spanish, Italian, Austrian, and from the Netherlands; and also Indian, Chinese, and African. They represent both the older traditions of secondary education and the new. Vividly they rise in my memory from the early eighties of the past century down to the present. Many of them I have known extremely well. With some I have been intimate almost from the verge of their school days to middle life. As I think of them, with their varied temperaments and against the background of the different traditions from

which they came, I feel that they are representative of the secondary education of their countries and that, invaluable as are the literary and technical works which are indispensable to a scholarly and scientific study of the educational movement of our age, these are the living books to which the mind should constantly turn in order to correct its perspective and to keep itself close to human facts as distinct from generalizations and hypotheses.

I

Walking down then, as it were, through this long gallery of living portraits, each of them representing the educational achievement of its time, I find certain salient characteristics distinctive of the young people of different countries. The young German men, midway in their University career, impress me by the wide range of their trained observation, by their many-sided culture, by their quick intellectual apprehension, by their wish to get information and often, even though they have but recently left school and have never been in England before, by their mastery of the English idiom. It happens that there hang in my house at Oxford a number of pictures by French and English painters from Corot and Constable to Picasso and Duncan Grant. It is the young German men and women (for the German girls have characteristics like the boys) who, with one exception, are quickest to seize the opportunity of looking at these unexpected pictures and filling up the gaps in their knowledge. The exception is the American girls, who seem to me to have the faculty of adapting themselves very quickly to new social surroundings and of adding in a charming way to their stores of information and culture. The young American men impress me by their power of taking hold of a situation and handling it with promptitude, vigor, and good sense. In standards of intellectual attainment, in some academic lines, they fall short of their German and French and of some of their English contemporaries. But when it comes to dealing with a practical emergency they, like the South Africans and Canadians, act like men. I remember a case in which one of our American Rhodes Scholars lost very suddenly his father who had come to live for some months in Oxford with his wife and daughter. The blow was unexpected and terrible. Before I could get to the house in which the bereaved family were living, a group of Rhodes Scholars had already taken

the situation in hand and during all the critical days which followed did everything which good feeling could dictate and vigorous initiative devise to help the afflicted family to meet the unforeseen demands of this tragic emergency. There is something in American and Canadian education which gives a man the power of dealing effectively with new and difficult circumstances, whether alone or in comradeship with others. Of the French I will say, of their young men and of their young women, that their élite is the finest intellectual flower in Europe. One feels in their minds the impress of centuries of culture. They have exquisite power of expression, clear insight into logical distinctions, a regard for reason which has at its heart a flame which is almost religious in the sincerity of its devotion to the intellectual aspects of truth. In many of the minds thus tempered by a long tradition of intellectual culture I miss, it is true, an element of compassion and a sense of the fringe of the incalculable and obscure which lies round the bright disc of all human certainty and which is liable at any moment to travel like a mist over what has seemed precise and clear. But the younger French who have been highly educated, whether they be men or women, have often a mastery of English which makes their conversation an intellectual delight and clarifies our English thought and art. The Scandinavians whom I have known have extraordinary charm and among their young women there is a gracious skill in household arts, combined with a fine quality of thought and speech, which gives one a profound respect for the family influence and school training which have made them what they are. Of the prepossessing qualities of the young Italians, Swiss, and Spaniards I can only say here how deeply I am impressed by the political experience of the first; by the international outlook of the second; by the insight into the national unity which may emerge out of marked psychological differences that is disclosed by the mental attitude of many of the third. The English, the Scots, the Northern Irish, the Irish of the Free State and the Welsh differ very much in mental characteristics but taken together make an excellent amalgam. With the English I suppose I am too familiar to venture on generalizations. They are not so young as they look. A great deal goes on in their minds which is not fully disclosed even to contemporaries. They are nearly always aware that there are two sides to every question. They live under what Aristotle would

have called a mixed constitution and they are aware that nearly all sharp-cut formulas are a misfit to the facts. They do not wear their hearts on their sleeves. The best result of their best education (which is largely an education through life and society with a hard core of exact scholarship) is not brilliance or eloquence but judgment, and in these difficult days when so many new factors enter, especially for English people, into every problem, judgment ripens slowly.

Hence the English generally seem rather young for their age and what is really shyness is sometimes mistaken for "side." With regard to the young Chinese and Japanese I can only say that, when I have got to know them well, each in his different way discloses a habit of mind and a power of judgment much nearer to our Western habit than general report would lead us to expect. Often after a long talk about things of deep common concern with a young Japanese or a young Chinese student, I have almost lost all feeling of diversity of race and have felt myself on the firm ground of common humanity. Of the young Indians, some of whom have become my intimate friends and for whose intellectual power and philosophical insight I have a profound respect, I am always conscious, at some point or other in our intercourse, of their suffering from some inner strain, due I suppose to the collision in their lives and thoughts between Western science and Oriental tradition, the latter being nowhere so strong in any Eastern land as it is among the Brahmins of India. "It is through the contact between Indian culture and that of the outer world, and especially the culture of Europe and the United States, that painful dilemmas are created in the mind of the thoughtful student of Bengal. He feels the eddying current of Western thought which is forcing its way, in some degree unseen, into the quiet waters of his traditional life. The current brings with it an unfamiliar, but vigorous and agitating, literature; a mass of political formulas, charged with feeling and aspiration and sometimes delusively simple in their convenient generalization; fragments of philosophies; some poisonous weeds of moral scepticism; bright-hued theories of reform; the flotsam and jetsam of a revolutionary age. The young man's necessary study of English has given him the power of reading what the inrushing stream brings with it. His own instinctive yearnings for social reform, for intellectual enlightenment and for moral certainty make him eager for fresh truth. And behind

this new foreign literature and philosophy, behind the pressure of those invisible influences for which printed books and journals are but some of the conduits of communication, there stands the great authority of colossal Western Power; Power evinced in political achievement, in religious conviction, in the world-wide ramifications of commerce, in stupendous industrialism, in the startling triumphs of applied science, in immeasurable resources of wealth."[1]

Judged, therefore, by their products, by their products at their best, I am fain to say that, in the light of my personal experience, the changes in secondary education which have taken place in all countries within living memory command respect, gratitude, and praise. Scores of thousands of men and women have achieved these great improvements in modern secondary education. Most of these pioneers enjoy no human fame. Selflessly they have built their lives into the fabric of a new civilization. With faith and persistence, often with selfless devotion, they have laid stone after stone of a new citadel of culture. We here salute their memory. And each one of us has special reason for personal gratitude to some of those who, in this almost nameless multitude, have transformed education for the service of the future. Were I asked, however, which among the many factors which have brought about this change during the last forty years has been the most powerful in its operation, I should reply without hesitation the influence of the United States of America. I am far from saying the only factor, or that the change would not have happened (though much more slowly) without American influence. But the United States, more than any other country, has given drive and momentum to the new trend of educational thought and administration. It is true, of course, that Germany, Great Britain, Scandinavia, and Italy have also been powerful agents in the transformation. Without the vast fabric of central European culture; without the illumination which has come to the world through the life and writings of Friedrich Paulsen, Wilhelm Rein, Georg Kerschensteiner, Friedrich Tönnies, Sigmund Freud, and Carl Gustave Jung; without the living tradition of French culture, without Sainte-Beuve, Lavisse, Gréard, Poincaré the mathematician, Delvolvé, Felix Pécaut, Ferdinand Buisson, and the French parliamentary debates on

[1] Here I quote words which I wrote in 1918 for the report of the Calcutta University Commission.

secondary education; without Grundtvig of Denmark, Salomonson of Sweden, Anderssen of Oslo, and the body of Scandinavian reformers; without the emphatic determination of the new Italy, without Gentile and Maria Montessori; without the conservatively radical English contribution—without Wordsworth's *Prelude*, without Faraday, Darwin, Clerk Maxwell, and Huxley; without the influence of Arnold of Rugby and of Matthew Arnold his son; without Herbert Spencer, Thomas Hill Green, Henry Sidgwick, Thring of Uppingham, Sanderson of Oundle, Howson of Holt, Dorothea Beale, Frances Mary Buss, Sophia Bryant; without Robert Baden-Powell, Foster Watson, John Adams, Percy Nunn, Bertram Russell, A. N. Whitehead, and Graham Wallas—the stream of innovation would have lost much of its fertilizing power. But strongest among the factors of change, I put the force and faith and generosity of the United States. The great educational trusts of the United States and individual American benefactors have evoked world-wide gratitude by their princely gifts, timely interventions, and international vision; the new American high schools struck the imagination of the world; William T. Harris, United States Commissioner of Education, led the way in systematic effort to present, through official documents, a picture of contemporary education. The liberality of the United States Government in distributing its Commissioner's reports diffused this point of view in quarters which Matthew Arnold's writings never touched; William James gave a new turn to the philosophical thought of Europe; John Dewey by his pen and personality has moved the world; William Ernest Hocking has a message which finds an echo in many European minds; Teachers College is by far the greatest center for the study of educational method and philosophy in both hemispheres; and the Educational Yearbooks issued under Dr. Kandel's editorship by the International Institute of Teachers College are the best telescope through which the student can now sweep into his vision the educational changes of the world.

II

If we use this telescope we see in all countries in the northern hemisphere, and in some countries in the southern, a common feature of educational change. There has been an upthrust of new strata of the community into the plane of secondary education. The cause

is that great force which, in the sphere of political philosophy, we call democracy. This cataclysmic movement began with Rousseau. But Rousseau himself is not fully understood except in the light of the English political thinkers and conflicts of the seventeenth century. Humanity is moving toward a new social ideal. By instinct it turns to education as one goal of its endeavor and as a potent instrument of change. I have been reading in the *Documentary History of American Industrial Society*, prepared under the auspices of the American Bureau of Industrial Research, with the coöperation of the Carnegie Institution of Washington, a remarkable letter written by Robert Owen from New Harmony, Indiana, on October 25, 1844, to the Editor of *The Phalanx*, the organ of the Party of Association, which owed much to the thought of Fourier. It is a letter written when Owen was sixty-nine years of age and it is full of that Christian temper which endeared him to many who could not sympathize with his religious iconoclasm. He speaks of Fourierism, which he does not accept, as a step toward the fuller enlightenment and reconstruction of society. But his letter ends with the words: "To produce universal peace, cordial affection, one interest, and permanent happiness among mankind, all the religions of the world and all desire for private property, or inequality of education or condition, must cease. Until then, justice, virtue and happiness will remain unknown. If I mistake not the signs of the times, even this period is not very far off."[2]

The documents published in this valuable compendium confirm the view that the chief impulse toward democracy in education was given by the advanced wing of thinkers on labor questions. This is certainly true of English educational history, in which the writings of Robert Owen and his followers and of the Chartists had a permanent influence, far greater than English writers of the last half of the nineteenth century realized. That it is true of the United States is maintained by Mr. John R. Commons and Miss Helen L. Sumner, the editors of the *Documentary History of American Industrial Society*:

> "Free schools, supported by taxes, were the first demand of enfranchised labour. . . . Hitherto our historical knowledge of the free school movement

[2] *Documentary History of American Industrial Society*, Volume VII, p. 225. The Arthur H. Clark Company, 1910.

has ascribed that movement to the great humanitarian leaders with Horace Mann at their head. But Mr. Carlton after a careful study of the documents herewith presented, concludes that 'the vitality of the movement for tax-supported schools was derived, not from the humanitarian leaders, but from the growing class of wage-earners.' The working men placed this demand foremost. The older parties took it up and candidates pledged themselves to it. The educational leaders appealed to a constituency already awakened. The Working Men's Party disappeared, but its issue was adopted by all parties, and free education became the finest fruit of universal suffrage."[3]

In Europe to-day the most extreme development of Rousseauism, in its double aspect of individual equality and authoritarian government, has taken place with haste and horrors in Bolshevist Russia. But the wisdom of the world knows where to stop. We may deplore the violence of the Russian reaction. We may regret the intolerance of Chinese youth for the dignity and decorum of the Confucian philosophy. But we need not fear, I think, catastrophic revolution in other countries which have shown themselves sensitive to the electric currents of new educational idealism. There is much non-conductivity in the structure of most European societies. Spain, because of its psychological division; France through its tenacious defense of the citadel of classical culture; Bavaria through its conservatism; Poland through its political instability; the Netherlands and England through their instinctive balance between individualism and national unity, have felt the impact of the new democratic movement in secondary education, but none of them is likely to be carried away by headstrong change. In Norway and Denmark and, to a much less degree, in Sweden; in Belgium and Italy, though in the latter case subject to the control of the Balilla and the provisions of the concordat with the Vatican; in Switzerland, Czecho-Slovakia, Esthonia, and Finland (though in the latter it is obstructed by the difficulties inevitably rising from the multiplicity of languages required for communication abroad), the force of the new current is more plainly visible, as it is in the democratic communities of Australia and New Zealand. Everywhere, though with different degrees of effective intensity, the democratic ideal has changed the face of educational policy and has already penetrated a large part of the educational

[3] *Op. cit.*, Volume V, pp. 27-28.

structure of almost every country of the world. It is significant that, on the eve of the General Election of May, 1929, the head of the Conservative Party, Mr. Baldwin, addressed in his own handwriting the following message to all engaged in the work of education:[4]

> One of the strongest bonds of union between men is a common education, and England has been the poorer that in her national system of schooling she has not in the past fostered this fellowship of the mind.
>
> The classification of our schools has been on the lines of social rather than educational distinctions; a youth's school badge has been his social label.
>
> When the present Administration took office it was satisfied that the interests of social unity demanded the removal of this source of class prejudice, and that the national structure of education should be drastically remodelled to form one coherent whole.
>
> The great new fabric is already taking shape; the outworn "elementary" structure is at last being superseded; higher education is being provided for every child, and manual aptitudes are being given for the first time the same facilities of exercise as the academic. The transformation now taking place and the vast plan of advance now projected along the whole of the educational front are described in these pages.
>
> Read this record and judge how vital to our national happiness and prosperity is the task to which the architects of the new education system have set their hands.

On the following day a pamphlet was addressed by the Conservative Government to all engaged in the work of education. In this document the future policy of the Conservative Party was outlined as follows:

> The aim of this scheme will be to provide courses of higher education for all children, instead of for a select few, in schools adequately equipped and staffed for the purpose, and will enable them, if their parents so desire, to continue their education at least until the age of 15. It will link the schools not only with the universities, but also with the great technical colleges, so as to offer opportunities to all who desire to do so to pursue a connected course of study from childhood to manhood; and it will assist those who could not otherwise take advantage of these opportunities by an adequate provision of free places and scholarships, supplemented where necessary by maintenance allowances.

[4] *Times Educational Supplement*, Saturday, May 11, 1929, p. 215.

I am not sure that Mr. Baldwin when he signed his letter and the Government when they issued this pamphlet fully realized all that their words involved. But

> Tasks in hours of insight willed
> May be in hours of gloom fulfilled.

I am far from meaning, however, that the members of the Conservative Government were merely paying lip service to a great educational ideal. They were rightly sensitive to one of the most powerful movements of our time, a movement in which both the Liberal and the Labour Parties concur. And to this movement no stronger impulse has been given than that which has come from the onrush of democratic idealism in the education of the United States. What, however, will the historian of the future deem to be the goal to which this new educational movement, so captivating to the imagination of its age, so powerful in its collective appeal, so disintegrating to ancient barriers in the educational labyrinth, was really tending?

III

In seeking an answer to this question the historian will jot down upon the sheet of paper which collects his thoughts a number of other causes which, besides the democratic impulse in politics, have heightened the tension of this new educational thought. He will remember that the demand for education was being made, for the first time in history, not only on behalf of boys but also on behalf of girls, and that this demand expressed itself in a desire, though in no country in a unanimous desire, that the education of girls should imply privileges equivalent to, if not identical with, those enjoyed by boys. He will remember also that alongside of democracy one of the strongest forces in world politics was nationalism—nationalism which sought to strengthen itself by a well-balanced system of education largely under the control of the State and which felt that the credit of possessing an educational system vigorously unified and well equipped is a valuable asset in national prestige. The historian of the future will also observe that in the new educational movement of the age there was a double economic factor—the desire of the multitude to handle one of the weapons by which men fight their way to wealth and the desire of the organizers of industry to have at their

command vast numbers of well-trained, disciplined minds and hands. He will also correlate with the educational movement strictly so described a widespread and compassionate desire to screen childhood and adolescence from the severity of labor for wages. Lastly, he will detect in the almost religious desire for a fuller education for the young a conviction lurking in many older minds but rarely put into words that a liberal education is one of the five chief goods in life—to be classed, that is, with health of body and mind, with freedom from pecuniary anxiety, with assured religious conviction, and with a happy marriage, with all of which a liberal education has certain connections. And he will rightly judge that an increasing number of parents were prepared to make great sacrifices, and to ask the community to make great sacrifices, in order that their children might have a chance to rise to this plane of higher human satisfaction. Perhaps most fundamental of all he will judge to have been the influence of the scientific outlook upon men's view of life. He will see that science had familiarized men's minds with the fundamental unity of life and had disposed them to look with disfavor upon institutional obstacles and upon class and caste distinctions in humanity. It is, I think, through the operation of all these forces acting together that the new movement in education, which at present wears the appearance of being democratic, has gained volume and such irresistible force. But all government calls for an élite; business calls for an élite; sound administration rests upon an élite; culture itself, though like art incessantly reinforced by unexpected genius, has a core which must be guarded by an élite.

The older forms of secondary education in all countries were designed, or, if not designed, destined, to produce an élite. They were to train the governing class; to prepare ministers for the sacred office; to equip the professions; to recruit the administration; and, in their more recent developments, to furnish industry and commerce with men of leadership and authority. Admission to these training grounds of the élite was fenced in by barriers of birth, class, and wealth, though in all countries there were by-passes for boys of humble birth and of outstanding talent. Mediaeval and modern European history is full of instances of the rise of boys from humble station through educational opportunity to posts of eminence in the State. The older civilization had its safety-valve and did not forget

to recruit itself from regions which lay outside the charmed circle of its privilege.

Less than a month ago there passed away in Oxford a great scholar, full of years and honor, famous throughout the world—Joseph Wright—the philologist, creator and editor of *The English Dialect Dictionary*. For many years he had been Professor of Comparative Philology in the University of Oxford. He had borne a great part in the building up of the Taylorian Institution and in the furtherance of linguistic studies in the University. His life history, which he dictated to me in March, 1925, and gave me leave to make known, is not without significance to an age which is apt to take it for granted that a long period of school training during childhood and youth is an indispensable preliminary to eminent literary achievement:

> Wright was born in a one-roomed cottage at Thackley near Bradford. His mother, whom I had the honour of knowing, was a woman of remarkable ability, caustic humour, and courage. In the early days of her widowhood she was in the direst poverty. But nothing daunted her intrepid spirit. She was one of those unlettered peasants of whom Wordsworth writes in *The Prelude*: "unregarded by the world" but "expressing liveliest thoughts in lively words." She was middle-aged before she learnt to read and write. Her son Joseph went to work when he was six. For driving a donkey and cart between a quarry and a blacksmith's shop he earned 1/6*d*. a week. When he was nearly seven, he went into a mill at Saltaire, where he was employed as a "doffer" in the spinning department. His work was to remove the full bobbins from the throstle and put empty ones in their place. For this, as a half-timer, he earned 3/6*d*. a week. He did not go to school and could not read and write. At thirteen he was apprenticed to woolsorting at another mill. His wages were small, but by doing extra work his mother made both ends meet. When his interest in the battles of the Franco-German War determined him to learn to read, he taught himself from the Bible and *Pilgrim's Progress*. In 1875, when he was twenty, he opened a night school. He got eighteen pupils at 2*d*. a week. His chief subject was mathematics. During the years in which he kept his night school he used to study till 2 A.M. and be at his work in the mill by 7 A.M. By these efforts he found time to teach himself Greek, Latin, French, and German. In 1875 he matriculated in the first division at the University of London. In 1876, having saved £40, he could afford to go to Heidelberg for a semester of mathematics. In 1878 he became a schoolmaster, first at Margate and then, I think, at Wareham. After that

(1882 I believe was the date he gave me) he was appointed by Mr. Armitage as assistant master at Neuenheim College, Heidelberg. It was there, in June and July 1884, that our friendship began. Wright studied old German at Heidelberg, Freiburg and Leipzig Universities; took his Ph.D. at Heidelberg; and, during these years of study in Germany, learned Sanskrit, Gothic, old Bulgarian, Lithuanian, Russian, old Norse, Old and Middle High German, Anglo-Saxon and old Icelandic. I remember his telling me at Heidelberg (a little to my surprise though I realised the greatness of his gifts) that he wanted to live and work in Oxford. Professor Max Müller gave him a welcome and his powerful helping hand. Thus, when Wright was thirty-three, his career in Oxford began.

This great Yorkshireman had a genius for language, a racy speech, a warm heart and indomitable purpose. In formal education he was a very late starter. A lad who could not read till he was sixteen became one of the greatest scholars of his time. In boyhood and in youth he had no schooling except in the school of life. His mother's wit and example, the lessons of donkey-driving, loom and mill, talk with his friends and workmates, were the only teaching he received, but by self-training he fitted himself to teach. Neither primary nor secondary schools had any part in his education. What part Church or Chapel had in it he did not tell me. His first bent was towards mathematics. It was Mr. Frederick Armitage, his employer at Heidelberg, who with a scholar's insight discerned the young man's gift for philology and disclosed to Wright the studies for which nature had endowed him with extraordinary powers. German Universities gave Wright his grounding in scholarship, his standards of intellectual achievement, his ideals of study. Oxford welcomed, helped and honoured him. An ideally happy marriage made his life and power of work complete. And to the end he was "the Yorkshireman as scholar."[5]

Wright was a man of genius. His strength of will was colossal. A tightly organized system of education, barring professorships to all who had not fulfilled the requirement of attendance at approved primary and secondary schools, would have blocked his progress, driven him away from scholarship and probably have turned his mind toward winning one of the great prizes offered by industrial enterprise. It is a good thing, I think, for England that her educational organization was so loose that Wright's genius could emerge in the sphere for which nature had especially endowed it. I am also inclined to think that from the obstacles which he had to overcome

[5] These notes, which I contributed to *The Times* (London) of March 4, 1930, are reproduced here with the Editor's leave.

Wright gained some of the strength which made him one of the leaders of European learning. But, in order to get a Joseph Wright, is it expedient, even if public opinion allowed it, to leave multitudes of Joseph Wright's contemporaries without school discipline in adolescence and without letters? To that question the Minister of Education in Mr. Baldwin's Conservative Government feels able, in his lately published work *Education at the Crossroads*[6] to give a confident answer. He replies: "The soundness of any system of education must be judged by the quality of its average product, by what it is able to do for the average man." To that dictum I, for one, am unable to subscribe. What most concerns humanity in the long run is the illumination of genius, not the mediocrity of the crowd. A thousand poetasters might well have been left to carry on their shoulders heavy burdens up the Italian hillsides rather than lose one Dante. Better that all the students in the mid-Victorian Mechanics' Institutes should never have heard of science than lose a Darwin. If the modern movement in secondary education means the decapitation of the eminent in the interests of the average, it will stand condemned at the bar of future history.

Education must produce an élite. The élite must emerge from the whole range of human society. How then can these two functions of education—the furtherance of the common interest and the fostering of an élite—be effectively combined?

[6] Published by Evans Brothers, London, 1930.

EDUCATIONAL VALUES OF SCIENCE TEACHING

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IN HIS treatise on education, Herbert Spencer raised the question, "What knowledge is of most worth?" His analysis of this question recognized educative values for (1) health; (2) vocation; (3) discharge of parental functions; (4) interpretation of national life; (5) enjoyment; and (6) intellectual, moral, and religious discipline. In answer to his own query he said, "The uniform reply is Science. This is the verdict on all counts." However much his analysis of values may be in conflict with modern educational theory, the contrast of present-day conditions with those which prevailed when Spencer wrote his famous chapter is evidence of the influence which science has had and is having on modern thought and action. This influence has affected each of the counts of Spencer's analysis.

SCIENCE IN HUMAN AFFAIRS

Present modes of living are possible because of applied science, and the adjustment of an individual to the demands of modern life is incomplete unless he is in some measure educated in science. Furthermore, the findings of scientific workers which relate to phenomena of the physical and of the biological environment are influencing enormously the thought reactions and the mental adjustments of all educated people. Every person whose status of mentality is high enough to permit him to follow the normal course of public education formulates principles of some sort to guide his mental and social behavior. The individual whose activities are guided by principles formulated in ignorance of the findings and of the method of science is denied an element of richness in life which should be his. Undoubtedly the contributions from science to modern civilization are a major factor in making our civilization different from (and we think more satisfying than) that of previous generations.

Illustrations of the manner in which applied science permeates modern life may be seen on every hand. The importance of sanitary measures and the penalties of ignorance, in the form of illnesses with attendant losses to the community, are well known. The science of sanitation has shown us how to protect crowded cities and rural communities from contagious diseases which if uncontrolled would be terribly destructive. Typhoid fever, diphtheria, smallpox, hydrophobia, scarlet fever, leprosy, malaria, yellow fever, and bubonic plague are among the diseases which are so well understood that it may be said of them that they are definitely under control. If a single case of any of these illnesses were to develop in an American city, the board of health could probably trace it to the cause that produced it and might be able to place personal responsibility for the negligence that allowed the case to develop. The maintenance of proper standards of health through control of causes of ill-health is a community responsibility and an individual responsibility. Principles of science, the understanding of which is essential to continuance of these standards, have abundant justification as curriculum content in our elementary and secondary schools.

In addition to their task of acquiring control of disease, practical biologists have learned that they may, in considerable measure, control, through modification, the character of on-coming generations of plants and animals. Scientific laws govern growth and development of plant and animal organisms and it is through knowledge of these laws that man has gained ability to modify the character of plants and animals in such a way as to make them more adequately serve his needs. The same biologic laws govern growth and development of the human organism. The nation must (and does) assume responsibility for transmitting through its educational system some knowledge of the laws of heredity and their application to plants and to animals, including the human organism. Through the study of science man is acquiring mastery of his living environment and he is acquiring mastery of himself.

In other ways man's existence (at least in ease and comfort) is conditioned upon knowledge and application of the findings of science. In the struggle for existence he is placed in competition with plant and animal pests. Insects and weeds destroy the crops; rats, mice and cockroaches eat and destroy food; and body lice, fleas, and bed-

bugs cause much torment in addition to spreading disease. The struggle with these pests is so keen, particularly in some communities, that school instruction relating to means of controlling them is deemed imperative.

On the physical side, science has in equally large measure transformed our manner of living. This is a mechanical age and perpetuation of it demands knowledge of principles of mechanics. Applications of science have a large place in the household, on the farm, in the factory, and in national affairs. Whether he will or not, every individual must use the products of applied science. He will use them more effectively if he has some understanding of them.

Applied science has transformed, in fact is continuously transforming, industry. And success or failure in factory operation as well as in investments may be conditioned upon knowledge of science. As a result of new discoveries, new industries take the place of old ones. The indigo industry is a striking illustration of one that was completely transformed after the discovery of a process for manufacturing a better indigo from coal tar, and at less cost, than the product that had been made from the plant. A process has recently been perfected for manufacturing wood alcohol from coal which promises to displace the one based upon destructive distillation of wood. It seems likely that processes for the synthetic preparation of gasoline may soon be perfected which will eventually transform this industry. Every large concern maintains a staff of highly trained scientists who are working continually to reduce waste and increase efficiency in industry through more efficient utilization of materials and energy, and through the manufacture of useful materials from products which have been of no value. Knowledge of their work is of practical importance to the man who deals in these products and in many cases to the one who consumes them.

The spectacular developments in transportation and communication are outcomes of applied science. The great majority of high school graduates will own and drive automobiles. Farmers are extending their use of complicated machinery. Nearly every household may maintain continuous communication with the outside world by means of the radio. Airplanes are coming into more and more common use. It seems almost unthinkable, yet we are reminded that an airplane in flight from California to Australia kept the world in-

formed of its progress throughout the flight. In his flight from his base to the South Pole, Rear Admiral Byrd kept the world informed of his progress until he reached his goal.

This is an electrical age and the great mass of our population have become, during a short generation, users of electrical power. The great electrical industries have developed during the lifetime of the present generation. The inventor of the electric light bulb is still living (1930). At the present time about 31 per cent of American homes are supplied with current for light and power, and industrialists are pointing to the remaining 69 per cent as a most attractive field for immediate business development. A large percentage of factories, in fact nearly all, are dependent more or less on electrical power. The industrial demands are so large that the problem of power production and its efficient utilization challenges the attention of our entire population. It is an important political issue. The schools must accept responsibility for giving children instruction that will make them aware of and, in some measure, intelligent with regard to these problems of power and development.

Illustrations of the applications of science could be extended to great length. These suggest something of the extent to which man has acquired control of his physical and of his biological environment, and they show something of the complexity of the life into which on-coming generations are entering. The schools must prepare children for intelligent participation in it.

In a program of general education which is for the most part the program of the public schools, the work of instruction will be directed toward accomplishment of understanding of those principles and generalizations of science that have largest application. The following are illustrative statements of outcomes, attainment of which will result in understanding of the applications of science to the work of the world. Attainment of such understandings may be said to be essential to effective social life.

A. The major causes of ill-health and the means of control of these causes.
B. The functions and utilization of food.
C. The sources of power and its efficient utilization.
D. The maintenance of soil fertility.
E. The principles of ventilation.
F. The principles of biology that have application in the modification of character of on-coming generations of plants and animals.

In equally large measure the findings of science may have applications as factors influencing mental adjustments. Values which come from interpretation of natural phenomena may be even more far-reaching in their importance in general training than many of those which come from understanding of applications like those illustrated. The intellectual attainment of a people may be to a large extent measured by the ability of its individuals to interpret the phenomena of their common observations. Inability to formulate correct interpretations is correlated with the extent to which individuals are influenced by superstition, mysticism, and ignorance.

Common observations such as lightning, earthquakes, and storms are no longer looked upon as mysterious afflictions visited upon the people by an irate deity. These are now seen as effects which result from natural causes, many of which are well understood. Eclipses and comets are no longer looked upon as good or bad omens, for their causes are satisfactorily explained. General accomplishment of understanding of causes such as these is of distinct educational value. It gives to the learner a feeling of security in the presence of natural forces, for he is freed from the mental terror that is attendant upon ignorance of them.

Through the results of scientific study the world has progressed from the status which prevailed when the common belief was that the earth was flat, the center of the universe, and the dominating influence of the heavenly bodies, to the present status when the movements of the heavenly bodies are more clearly comprehended and when the earth is seen as but one of the planets of the solar system, and the solar system as but one of an indeterminate number of solar systems. Accompanying this change has come a much clearer comprehension of man's place in the scheme of things. Attendant upon the discoveries that have revealed true relations of the earth to other bodies has come an enlarged conception of the immensity of space, of the age of the earth, and of the duration of time. The values which come from the understanding of conceptions such as these are second to none in importance for their potential influence. In some manner, either for good or for evil, they affect the thoughts of all rational beings, whatever their level of intellect or schooling.

During the past decade there has been discussion of controversial issues in religion. The Fundamentalists, on the one hand, accept and

support the religious interpretations of Christ and his contemporaries. The Modernists, on the other hand, call for such modifications of religious thought as seem to them necessary to make it consistent with their interpretations of the findings of science which are the product of the modern age. Through discussion of these issues conceptions and generalizations like those illustrated above have influenced in some measure the thought reactions of all thinking people. Neither Fundamentalist nor Modernist can intelligently weigh the issues of his belief without some knowledge of them.

A BASIS OF INTEREST

The connotations of scientific conceptions and generalizations are challenging to the interests of educated adults and children. Interest is inherent in instruction which develops ability to respond to a situation to which response has previously been thwarted by ignorance. One who is afraid of comets is interested in instruction which removes the fear by showing the comets in their true relations. One who is blocked in his solution of a problem is interested in instruction which makes it possible for him to proceed. The intelligent individual craves an understanding of reasons for happenings, for such understanding makes it possible to respond to a greater variety of stimuli. And as respects natural phenomena the reasons for happenings are found in the contributions that have come from the work of scientists. There is interest when the learner is presented with situations to which he must respond and when the learning experience develops a response that is more satisfying than that which could be made without the experience. The question of interest in instructional material is resolved therefore into one which asks whether the instructional material has been selected so as to supply learning which allows response to situations (stimuli) that come within the learner's experience. Science situations as stimuli are on every hand. There will be no lack of interest in content which suggests satisfactory adjustments to these stimuli.

The contributions of science are a product of the recent period. The body of tested knowledge has increased through the past one hundred years at an accelerated pace. Only small samplings of this have found place in the general program of liberal education. Those who have developed this body of knowledge are acquainted with it

and are influenced by it in their mental and social adjustments. The extent to which this new body of content has within it the potentialities for influencing mental and social adjustments, that is, liberalizing the learner, may be measured by the extent to which this information makes it possible for the learner to respond to situations which come within his experience and without which response would be thwarted. These considerations suggest the real test of the educative value of science whether the content be selected for so-called practical values or for cultural or liberalizing values. In general education, no sharp division will be drawn between subject matter of these two kinds.

BIG IDEAS AS OBJECTIVES

The program of curriculum work in science for the public schools will be directed toward the determination of those principles and generalizations which are the big ideas from the field. The curriculum worker will test these ideas for bigness by study of the extent to which they have within them the potentialities for influencing the physical and mental adjustments of human beings. Some progress in this has already been made. For a tentative definition of these big ideas educational workers have turned to the writings of men of science, with particular attention to the material which they have written for general (that is unspecialized) readers. This has seemed a most fruitful field for analysis, for this material is the product of careful thought concerning the needs and interests of the general reader, and it represents the effort to meet these needs by men who have sufficient breadth and thoroughness of training to overview the fields from which they write.

The statements which follow are representative of the themes, developed in treatises for the general reader, which have been written by men of science.

I. Statements concerning the origin and history of the earth.
   1. The earth is very old.
   2. Throughout the period of the earth's existence natural forces have operated to change the appearance of the surface of the earth. The record of changes is found in rock formations.
   3. The earth is a sphere.
   4. Conditions favorable for life are likely to persist on the earth for immense periods of time.

5. Scientific hypotheses explain the origin of the earth and the other astronomical bodies.

II. The earth in relation to other heavenly bodies.
1. The space through which the heavenly bodies move is extremely vast.
2. Energy for the vital and physical processes comes from the sun.
3. The earth and the other planets move in orderly courses about the sun.
4. The sun and the stars are in motion through space.

III. Living things.
1. Species have survived because of adaptation to the environment.
2. There is an interrelation and interdependence between plants and animals and the inorganic environment.
3. Man's success in adaptation is largely the result of his mental capacities.
4. Man's ability to control his environment and to modify the character of on-coming generations of plants and animals has come as a result of his acquisition of knowledge of biological laws.

IV. Physical and chemical processes.
1. Neither matter nor energy can be created or destroyed.
2. All the matter of the earth and probably of the universe is made up of less than 100 elements.
3. Man's ability to control his physical environment has come as a result of his acquisition of knowledge of physical and chemical processes.

V. Generalizations relating to the method of science.
1. Man's conception of truth changes.
2. The formulation of hypotheses and the testing of them by experimental study are essential steps in the scientific method.
3. Much knowledge remains to be revealed.
4. Orderliness prevails in nature. Effects result from causes.[1]

Understanding of ideas such as the foregoing (and this list seems fairly comprehensive) should be seen as important goals of science teaching. The statements are so far-reaching in their implications that they may be said to encompass the fields of science. The program for their attainment must be considered in relation to the whole program of education.

[1] Curriculum values for a list of statements similar to these have been reported by G. S. Craig: *Certain Techniques Used in Developing a Course of Study in Science for the Horace Mann Elementary School.* Contributions to Education, No. 276, Teachers College, Columbia University.

THE PLAN OF PUBLIC EDUCATION

The divisions of the public school system are elementary, secondary, collegiate, and university. Exigencies of administration constitute the main support for recognition of these divisions. It is true, of course, that the educational objectives of the later years of secondary education are quite in contrast with those of the early years of the elementary school, yet the dividing line between these two divisions of the school system should be hardly evident. The changes from elementary to secondary education and from secondary to collegiate and university levels should be made by gradual transitions paralleling the changes in mental maturity which accompany the growth and maturation of children.

Provision has been made for elementary training of all the nation's children and legal compulsion practically guarantees attendance throughout this period of all who are mentally and physically fit. The grades of this level should provide the background of cultural and practical training which shall in largest measure prepare the children for responsibilities which are theirs and for those which they must face as they attain greater maturity.

An increasingly large proportion of American children is entering upon and continuing through the period of secondary education. On this level opportunity is afforded for increasingly intensified and enlarged study of the educational materials that are deemed fundamental to the welfare of the individual and of the race. In an effective program of public education the work of the secondary and later levels will have its beginning in the elementary school on the lowest levels of maturity at which it may profitably be placed. The work of succeeding grade levels, elementary, secondary, and collegiate, will take departure from the earliest offering and be consciously and intelligently correlated with it. There would seem to be no exception to this principle whether the work be language, mathematics, the practical arts, or science. The junior high school has been designed to effect a more satisfactory correlation between the elementary and the secondary school. The work of this level should be consciously modeled so as to provide for continuous enlargement and enrichment of the work which has its beginning in the curriculum of the elementary school. Mental growth is gradual. The enlargement of the curricu-

lum should be gradual, paralleling the mental growth of the children. The principles guiding practices in the organization of our public school system are based on the assumption that the progress of children through the successive grades should be from grade levels of general training toward grade levels in which the student has opportunity to explore the work of special fields. The general program of the lower grades of the elementary school and the program of elective subjects in the senior high school are quite in contrast, but an effective curriculum is one in which the learning progresses gradually and uninterruptedly from the lower to the upper levels.

This overview of the plan of public education is presented as one into which the program of science education must be fitted. This plan seems consistent with the accepted principle of educational psychology, that learning is a continuous and gradual process which begins in infancy and continues throughout the period of life. Learning begins with the acquisition of simplest learning elements. These impinge upon the nervous system in the form of simple sense perceptions. These simplest perceptions are the bases of conceptions and these in turn of generalizations. Conceptions and generalizations are therefore related hierarchies of simple learning elements. When these are formulated they may function in thought as simple elements. More mature learning involves association of these relatively simple hierarchies to form more and more complex ones and so the process of learning goes on. It is the aim of the school to provide the experiences which will make possible the most efficient growth in learning. Effective accomplishment of this aim is conditioned upon the ability of the curriculum worker to make available to the children of succeeding grade levels the learning experiences which are appropriate for continuous mental growth.[2]

On the practical side it may be said that in any subject matter a program of education which is inconsistent with the plan of general education can hardly be successful. Furthermore, a program which is inconsistent with the abilities of teachers in service to develop it is also doomed to failure. The suggestions which follow must be tested for practicality by both these considerations.

In the light of the foregoing, it is proposed that the curriculum in

[2] The postulate just stated is used as a guiding principle in a study which has been recently reported. Anita D. Laton: *The Psychology of Learning Applied to Health Education Through Biology*. Contributions to Education, No. 344, Teachers College, Columbia University.

science be organized about large objectives, understanding and enlargement of which shall constitute the ultimate aims of science teaching, and that the course of study be organized so that each succeeding grade level shall present an increasingly enlarged and increasingly mature development of them.

AN ILLUSTRATION

The method by means of which the big ideas of science may be reduced to learning experiences which are appropriate for use on different grade levels may be illustrated by analysis of one of them. Take, for example, the scientist's conception of the age of the earth. This conception has been developed by study of the changes that have taken place on the earth and by study of the rate at which these changes go on. Children of the lower grades may see that a small stream in the neighborhood of the school is slowly carrying away the earth which lines its banks. Following each heavy rainfall the change is sufficient to be noticeable. The bed in which the stream flows is made deeper and wider as the muddy water flows away toward the sea. Although the rate of change is evident, it is quite clear that many years have been required for the stream bed to form. On more mature grade levels it may be shown that the hills on each side of the stream have been formed by the continuous action of the flowing water. The valley between the hills may or may not be wide. Suppose it is one hundred feet and suppose the hills are fifty feet high. It may be shown that the sum total of the effects of the several small streams of the community has been to carry away cubic miles of earth. After this elementary treatment of the work of streams has been given, the children may be told that the geologists' estimate of the average rate at which the North American continent is being worn away by water is approximately one foot in 9,000 years.

On more mature grade levels additionally enlarged notions of the geologic history of the earth's surface may be presented. Evidence is at hand to show that the erosive action of running water and other forces has gone on in some regions until the stream bed has cut its way down to the ocean level. The stream bed of the Colorado River has cut down and formed the deep canyon in which it now flows. At one time it flowed with its bed high above its present level. In the walls of the canyon there are extensive limestone deposits which con-

tain fossils of marine animals. Geologists accept this as evidence that this region was at one time beneath the sea and that as a result of wrinkling and folding of the earth's surface this ancient sea bottom has been elevated until it is now many hundreds of feet above the level of the ocean. Since this elevation, the river has cut its way down through the elevated rock for hundreds of feet. Geologists find records of changes in this region which could hardly have occurred in less than 700,000,000 years. These records identify changes which took place through a long era which preceded the period of planation.

The history of the Hudson River and of the formations which constitute its valley takes the mind through a period of time so vast that it is difficult to comprehend. At the present time the Hudson is an arm of the Atlantic, a "drowned" river, with no other flow than that caused by the rise and fall of the tides. Its rock bed is very deep, in fact extending down for more than 700 feet below sea level. Its channel extends out to the edge of the Atlantic continental shelf as a veritable canyon beneath the sea. Yet this channel must have been cut by the erosive action of running water. There is evidence in these observations that the land of the New York City region was once much more elevated than at present and that the deep bed of the Hudson was once a gorge similar to that of the Yellowstone River but on a smaller scale.

The rock on either side of the Hudson River tells a story of events still more ancient than those we have just mentioned. On the west stands the towering cliff known as the Palisades—the eroded edge of a huge sheet of once molten rock which welled up between layers of shale and sandstone. These sediments forming a deposit many thousands of feet in thickness were laid down in a sinking continental basin during the Age of Reptiles. The skeleton of one of these ancient lords of the earth has been found embedded in the cemented sediments at the edge of the river.

Of the enormous period of time between the earliest of the geologic eras and the Age of Reptiles, during which animal life developed from the simplest forms to the highly complex reptile type, there is no record in this region. The geologist tells us that deposits may have been laid down, but they have been subsequently eroded, for nothing remains. On the eastern bank, however, he points to the gnarled and contorted schists, marbles, and gneisses which form the island

of Manhattan. They were made in the first of the five geological eras —the Archæozoic—they were crumpled into mountains comparable to the Rocky Mountains and they were the scene of great igneous activity. To-day nothing but their bases remains; they have been worn down almost to sea level. We question the geologist concerning the origin of these ancient rocks and we are told that they are but metamorphosed sediments made from the erosion of still more ancient rocks.

And on both sides of the Hudson we find the deposits of clay and bowlders left by the last great glacier; we see the grooves that it gouged in the rocks. If the whole of geologic time be represented by twenty-four hours this glacier receded less than four seconds ago—yet it was long before the dawn of human history. Such, in brief, is the record of the Hudson and of the rocks which form its banks.

THE SCIENTIFIC METHOD AND OTHER CONCOMITANTS

In addition to the informative value of the foregoing, effective accomplishment of learning in this field must have as accompaniments many important concomitants. The development of this objective illustrates clearly some of the attributes of the scientific methods which have been used by geologists. Observation and awareness of natural phenomena stimulate an attitude of inquiry concerning the reasons for happenings. How did the rolling country on each side of streams and rivers come to be that way? Why is it that marine fossils are found embedded in rock high up in mountains? Observation of a relationship between time and change furnishes the urge to determine how long these changes have been going on. Solution of these inquiries is attempted by correlation of observations, formulation of hypotheses as possible explanations, and testing of these hypotheses by assembling and correlating additional observations. Hypotheses are tested by examining them to determine their consistency with all observations. For example, the observation of marine fossils in the rocks of the western mountains suggests at once the hypothesis that these fossiliferous rocks were once part of the bed of the ocean. Observation and study of the contour of these rocks and of their relationship to neighboring rock deposits reveal only data which support this hypothesis. Diastrophism is an established phenomenon, so the geologist is led safely to the conclusion that, due to

upheavals and folding of the earth's crust a region which was once part of the bed of the ocean is now a high mountain.

This analysis illustrates some of the methods of scientific study. It illustrates (1) the importance of—in fact the scientist's dependence upon—factual information; (2) the basis of hypotheses; and (3) how hypotheses may be tested. It shows how hypotheses may be tested by the criterion of cause and effect and by the criterion of internal consistency. It reveals that science may contribute and has contributed a factual background for beliefs and interpretations which may be substituted for the background supported only by tradition, mysticism, and superstition.

The study of such content as has been already outlined makes for an awareness of nature and a reverence for it. The learner comes to a clearer comprehension of his place in the scheme of nature and he may come to a clearer comprehension of his limitations and of his strengths in the face of natural forces.

The learner is practiced in intelligent observation and by this means acquires an understanding of the natural phenomena of his environment. He gains an appreciation of the scientific method vicariously by thinking through with the geologist the experiences encountered in study. He must understand his problems, know some of his data, and understand how he has applied the data to the solution of his problem. Subject matter as used here means problems and data for solution of these problems together with such activities as are necessary to clarify and visualize the problems and data. The pupil is vicariously a discoverer. He is taken through the experiences of a discoverer and these experiences are clarified so that he may come, in as large measure as possible, to an appreciation of the methods of thought and action used by a scientific worker.

There is evidence in these histories—of the small stream that, by chance, flows past the school; of the Colorado River; of the Hudson River; of the formation and destruction of mountains; of the formation of sedimentary rock; and of diastrophism—that the earth during inconceivable eons of time has passed through tremendous but orderly physical changes. This enlarged conception of the age of the earth and of the succession of changes that has taken place and is taking place on its surface, properly considered, is a source of profound spiritual inspiration. A specific objective of instruction is to guide the

learner so that he may come, first, to an intelligent understanding of his environment; and second, to experience the thrill that comes from understanding something of the methods of study which have been used to formulate these explanations. Undoubtedly there will be many valuable concomitants to this accomplishment, including spiritual inspiration and ability to make more satisfactory mental adjustments.

This analysis has been given to show how a big idea of science may be broken up into learning experiences which may be used in grades of different levels of maturity. This one provides experiences which may be used on all levels ranging from the grades to the university. The work of running water, rock formations, the erosive action of growing plants, the formation of coal beds, glaciers, and related topics are commonly included in courses of study for the elementary and junior high school. These should be so presented as to enlarge for the learner the meaning of the scientific generalization: Natural forces are continuously operating to produce changes in the surface of the earth. These changes may be presented in relation to rate of change so that as the child progresses from grade to grade he gets an increasingly enlarged conception of the length of time these forces have been at work. It is suggested that we may expect to accomplish a grade placement of material relating to this objective by analyzing the large generalization into the smaller generalization and concepts from which it has been synthesized and by subsequent subdivision of these until they are reduced to elements which are appropriate for the different grades. This point of view is in harmony with the point of view of elementary and secondary education. The learning process should be a building up process. Elementary concepts and generalizations will be developed on lower grade levels and successive levels will provide for assembling and associating the elementary learning to form increasingly enlarged interpretation. Some one has well said: "Introduce children to big ideas and do it early." The writer accepts this as a guiding principle for curriculum work in science and offers the foregoing as suggestions of ways and means for its application.

Only a brief analysis of the statement—Energy for vital and physical processes comes from the sun—will show that this is another of the big truths of science. The fact that the sun is a source of light and heat may be taught in the elementary grades. Subsequently it

may be shown that energy from the sun may be transformed into energy of falling water and into energy of wood, coal, and petroleum. Energy from falling water and from coal may be transformed directly into mechanical energy and used in industry, or it may be further transformed into electricity. It is through increasing control of these energy changes that man has made himself more secure in the struggle for existence and developed the present mechanical age. Mechanical devices—steam and gas engines, dynamos, motors, electromagnets, etc.—are energy transformers and functional knowledge of these mechanical devices will result from understanding of the manner in which they operate to accomplish a transformation. This analysis reveals subject matter and problems that are appropriate for study on all levels of mental maturity, ranging from that of the elementary school upward into the university. The analysis may be set forth in the curriculum so that it gives to the learner, as he progresses from grade to grade, a continuous enlargement of the energy concept, and so that he may secure some appreciation of and practice in the use of the methods of study used by scientific workers in developing this body of knowledge. It leads to the fields of physics and chemistry and reveals these as opportunities for the fruitful exercise of intellect of the highest rank. It reveals the physical sciences as the fields out of which the present mechanical age has developed and as fields which must be further developed if the human race is to continue in health and prosperity.

SUMMARY

Other illustrations might be given but the foregoing seem sufficient to illustrate how the big truths of science may be used to guide in the selection of content for instruction. The big ideas are of such importance and so extensive in scope that the student may live with them throughout his training period and throughout his life. Definable educational values from science teaching will have been attained if students acquire (1) an ability to utilize the findings of science that have application in their own experiences; (2) an ability to interpret the natural phenomena of their environment; and (3) an understanding of, and ability to use, some of the methods of study that have been used by creative workers in the fields of science. As the student progresses through the grades his study becomes increasingly

intensive and increasingly specialized. The special subjects of the upper years of the high school and the college are offered as electives in which the student has opportunity for intensive and specialized study of one of the big ideas or of a few related ones. The suggested pattern for curriculum organization is one which gradually unfolds increasingly enlarged interpretations in sequential order, paralleling the growth in maturity of the learner and his increasing ability to envisage them. Accepted principles of educational psychology and principles that guide practices in elementary, secondary, and collegiate education are offered in support of this pattern.

The program of organization of science is at present more or less chaotic. There is little or no evident relation between the work of the grades and of the high school. High school and college work is very poorly integrated. Institutions for teacher training find it extremely difficult to relate their work to the needs of students preparing to teach science, because the field is not clearly defined.[3] This program sets forth a definition of science for the elementary, secondary, and collegiate schools and it shows how the work of different grade levels may be integrated about common themes. Furthermore, this procedure sets forth the possible educative outcomes of science in such definite form that curriculum techniques may be developed for evaluating them.

[3] The point of view set forth in this paper has served to guide in a recent study in teacher training: Florence G. Billig, *A Technique for Developing Content for a Professional Course in Science for Teachers in Elementary Schools*. Contributions to Education, No. 397, Teachers College, Columbia University.

A RATING SCALE FOR ELEMENTARY SCHOOL ORGANIZATION

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THIS article is a report of the method of developing a rating scale recently published.[1] The scale was developed by the present writer with the aid of students in school administration at Teachers College and of Dr. G. L. Hilleboe, Research Associate in Educational Administration for the year 1929-1930.[2]

The administrative or supervisory officer who would take an accounting of educational results in terms of measures of sufficient scope to give him confidence in his results and guidance in shaping new policies has found himself at a loss for accounting devices. He has been given but little assistance in establishing the proper relationships of standard test results, age, grade, and progress studies, time allotment data, appraisals of courses of study, and the like. To most workers in the field such studies are isolated and unrelated. To those who see a relationship running through them all, the combined result is both unconvincing and uninspiring. The result is unsatisfactory because these studies on the one hand fail to deal with the complete development of individual boys and girls, and on the other hand fail to provide measures of vast areas of desired educational outcomes.

In working with the problem during a period of a half-dozen years the present writer has attempted to make some headway in supplying the lacking elements in educational accounting. The state and city surveys carried on under the auspices of the Division of Field Studies of the Institute of Educational Research, Teachers College, have provided both an ever present incentive and a valuable laboratory for this purpose. The progress toward the introduction

[1] *A Rating Scale for Elementary School Organization.* Bureau of Publications, Teachers College, Columbia University, 1930.

[2] Now Professor of Education, New York State College for Teachers, Albany, N. Y.

of the individual pupil as a unit in accounting is indicated by a recent monograph by the writer entitled *Individual Pupil Programs*, and a more extensive study analyzing the needs of individuals as they impinge upon the accounting problem, recently developed by Dr. K. O. Broady.[3]

The rating scale for elementary school organization represents the first fruits of efforts to solve the other problem mentioned above—the establishment of the relationships that present measures bear to one another and the supplementing of these measures in areas that have not previously been supplied with measures.

The attempt to develop measures for the wide range of considerations that bear upon school organization at any level is fraught with serious difficulties, many of which have not been successfully surmounted. The rating scale as it now stands should prove useful, however, in raising a broad range of questions that must be seriously taken into account in the organization and operation of schools. This should help in correcting present organization that too often has been viewed in the light of a narrow range of considerations, and in avoiding the hidden pitfalls in newly devised programs.

DESCRIPTION OF THE SCALE

The rating scale consists of forty-eight pages of standards, measures, and forms for collecting data. The scale is divided into four sections, (1) Progress and Adjustment of Pupils, (2) Educational Activities, (3) School Environment and Morale, and (4) Services, so designed as to be usable as separate elements, much in the same manner as the individual tests in an achievement series. The scale is so organized that the measures appear opposite the standards to which they apply. For facilitating analysis there are provided a score card (Chart 1) which gives a weighting to the various items and a profile chart (Chart 2) which is independent of the weightings of the various items.

FORMULATION OF STANDARDS AND MEASURES

In the development of the scale, a class of graduate students in school administration first investigated the literature on elementary schools and developed a set of standards which it was believed would

[3] Broady, K. O., *School Provisions for Individual Differences.* Contributions to Education, No. 395. Bureau of Publications, Teachers College, Columbia University, 1930.

SCORE CARD

	1	2	3	4
I. Progress and Adjustment of Pupils				300
A. Policies Governing Pupil Progress			100	
1. Initial Entrance		25		
2. Entrance from Other Schools		20		
3. Progress		55		
a. Acceleration	30			
b. Retardation	25			
B. Adjustments to Varying Needs of Pupils			200	
1. Low Ability		30		
2. Unusual Proficiency		25		
3. Special Disabilities		20		
4. Health and Physical Defects		30		
5. Correction of Deficiencies		25		
6. Special Abilities		20		
7. Social Needs		15		
8. Other Educational Deficiencies		10		
9. Limited Stay in School		15		
10. Other Adjustments		10		
II Educational Activities				300
A. Classroom Activities			230	
1. Flexibility		45		
2. Breadth		45		
3. Instructional Material		45		
a. Accessibility	15			
b. Adaptability and Adequacy	30			
4. Continuity of Curriculum		30		
5. Courses of Study		35		
6. Results of Tests		30		
B. Activities Outside Classroom			70	
1. Athletics		25		
2. Extra-curricular Activities		45		

CHART 1. Score Card to Accompany a Rating Scale for Elementary School Organization*

* The complete rating scale with standards and forms for evaluating data (48 pages) is published by the Bureau of Publications, Teachers College, Columbia University.

SCORE CARD (*Continued*)

	1	2	3	4
III. School Environment and Morale				200
A. School Environment			100	
1. Classrooms		40		
2. School Building		30		
3. Playground and Gymnasium		30		
B. School Morale			100	
1. Classroom		60		
2. Outside the Classroom		40		
IV. Services				200
A. Census and Attendance			20	
B. Health Service			30	
C. Instructional Service			35	
D. Supervision and Research			40	
1. Organization		25		
2. Program		15		
E. Safety of Pupils			20	
F. Educational Records and Devices			55	
1. Testing Program		25		
a. Intelligence Tests	10			
b. Achievement Tests	15			
2. Educational Records		30		
a. Social Information and Records	7			
b. Physical Information	8			
c. Teacher Judgment	5			
d. Educational History	10			

bring about the best possible situation for the education of boys and girls. With these general standards as a basis, another group of graduate students in school administration selected those standards which were at all measurable and defined the measures which could be applied to any school. These standards and the corresponding rating scale were then returned to the first group for revision in the light of the practicability and reliability of their application. This revised rating scale was made the basis of a checking list which was used in a survey of the schools of Maple Heights, Ohio. The appli-

PROFILE CHART

I.	A. Progress Policies	1. Initial Entrance	0	5	10	15	20	25
		2. Entrance from Other Schools	0	4	8	12	16	20
		3. Progress	0	11	22	33	44	55
	B. Adjustments	1. Low Ability	0	6	12	18	24	30
		2. Unusual Proficiency	0	5	10	15	20	25
		3. Special Disabilities	0	4	8	12	16	20
		4. Health and Physical Defects	0	6	12	18	24	30
		5. Correction of Deficiencies	0	5	10	15	20	25
		6. Special Abilities	0	4	8	12	16	20
		7. Social Needs	0	3	6	9	12	15
		8. Other Educational Deficiencies	0	2	4	6	8	10
		9. Limited Stay in School	0	3	6	9	12	15
		10. Other Adjustments	0	2	4	6	8	10
II.	A. Classroom Activities	1. Flexibility	0	9	18	27	36	45
		2. Breadth	0	9	18	27	36	45
		3. Instructional Material	0	9	18	27	36	45
		4. Continuity of Curriculum	0	6	12	18	24	30
		5. Courses of Study	0	7	14	21	28	35
		6. Results of Tests	0	6	12	18	24	30
	B. Outside Activities	1. Athletics	0	5	10	15	20	25
		2. Extra-curricular Activities	0	9	18	27	36	45
III.	A. Environment	1. Classrooms	0	8	16	24	32	40
		2. School Building	0	6	12	18	24	30
		3. Playground and Gymnasium	0	6	12	18	24	30
	B. Morale	1. Classroom	0	12	24	36	48	60
		2. Outside the Classroom	0	8	16	24	32	40
IV.	A. Census and Attendance		0	4	8	12	16	20
	B. Health Service		0	6	12	18	24	30
	C. Instructional Service		0	7	14	21	28	35
	D. Supervision and Research		0	8	16	24	32	40
	E. Safety of Pupils		0	4	8	12	16	20
	F. Educational Records	1. Testing Program	0	5	10	15	20	25
		2. Educational Records	0	6	12	18	24	30

Rating Scale for Elementary School Organization Teachers College, New York City

CHART 2. Profile Chart to Accompany a Rating Scale for Elementary School Organization**

** The broken line represents the ratings recently assigned to the elementary schools in a school system having 300 teachers.

cation of this checking list revealed some of the difficulties in applying these measures to a practical situation. Another revision, therefore, was made in the rating scale by a selected group of graduate students. The rating scale was then weighted by fifty graduate students on the basis of one thousand points, for the purpose of providing a tentative measure of the elementary school organization in Perth Amboy, New Jersey. Sixteen members of the survey staff participated in rating the elementary schools on this basis. Changes were made in the less objective phases of the rating scale in the light of the results obtained.

VALIDITY AND RELIABILITY

Further investigation was carried on in order that each item might be substantiated by one or more authorities in the field of elementary education. In each case of conflict of opinion by recognized authorities, the particular item was eliminated in favor of one which was more generally approved. Certain minor divisions were added in order to clarify and substantiate the major divisions already accepted.

To test the reliability of the rating scale, a suburban city of about 50,000 population was selected. Sixteen graduate students in administration studied the standards intensively, putting special emphasis on those items which required classroom observation for a rating. The group was divided into four sections, each section being assigned six rooms to observe throughout an entire day. The schedule was so arranged that each room was observed by some group at every period of the day. Where the data secured were objective (for example, Section I, Progress and Adjustment of Pupils), the school was not rated by the observers. Objective data on these items, applying to the school as a whole, were secured from the principal by the staff member in charge. Individual members then rated these objective data according to their interpretation of the standards applicable to them.

In order to check the comparative reliability of different divisions of the rating scale, the mean deviation of each of the sixteen observers from the average of the percentages which they allotted to the items was secured. All those items in which the mean deviation of observations was above the average of the mean deviations were

assumed to be less reliable than those in which it was below the average. The reliability could be increased either by increasing the number of items or by eliminating the least reliable items. As it was desirable to limit the number of these items in order to make the rating scale more easily administered, the least reliable items were eliminated.

The elimination of unreliable items in each division of the rating scale increased the reliability of each of the divisions except Safety of Pupils, Intelligence Testing, and Educational Activities in the Classroom.

Under Educational Activities of the Classroom, the elimination of four items because of unreliability, and the elimination of five items because of duplication of ideas, reduced the number of items from twenty-four to fifteen, while increasing the variability only slightly. In addition, eight items were rewritten because of unreliability, vagueness, or lack of objectivity. Under Breadth of Educational Activities, only eight of the twenty-three items were measured by observation of work in the classroom, the others being measured by the response of teachers to questions. All these eight questions showed great variability. Five of them were eliminated and the three others were rewritten. Of the items calling for answers by the teacher, four were rewritten and four were eliminated on the basis of the response.

A division on Supervised Study was entirely eliminated for the reason that the individual items were highly unreliable and the division seemed to be more of a device than a fundamental factor in insuring individual educational growth.

In the division on Results of Tests, the variability of the individual items was very low and the elimination of one of the four questions did not increase it significantly.

Two questions were eliminated from the division on Morale Outside the Classroom, because of the difficulty encountered by the observers in rating them. These were not the least variable questions; hence the variability of the whole division was increased. The variability of this division was greater than that of any other division, but it was not eliminated from the rating scale because of the hope that its inclusion might lead to the development of more objective measures in the future.

As a further check on the reliability of the items of the rating

scale which were based on observation, one of the staff members rated the school. The rooms selected for observation were approved by the principal as being excellent, average, or poor. The number of points allotted to each room by the sixteen observers and the number of points allotted by the staff member were tabulated. The average rating of the excellent rooms exceeded the rating of the poor rooms by 83.8 points in the case of the observers and by 109.8 points in the case of the staff member. The rating of the observers on the average rooms was slightly less than the rating on the excellent rooms, while the rating of the staff member was slightly greater. An analysis of the individual items of observation shows that the rooms selected as poor were rated higher than the rooms selected as excellent in only fourteen out of eighty-one items.

The determination of the least reliable items in the section of the rating scale for which objective data were secured was based on the agreement of observers. In the case of those divisions of the rating scale which depended upon observation for a rating, five factors influenced the selection of items for elimination or revision.

1. Number of observers who did not rate the item.
2. Items which disagreed with the ratings of the staff member.
3. Variability of the individual observations on each room at the same time.
4. Variability of sixteen observations on each room throughout the day.
5. Variability of each group average from the average of sixteen observations for the whole school on each of the items.

The reliability of Section I, Progress and Adjustment of Pupils, was tested empirically. It consisted mainly of the development of devices for securing a measure of the school based on the objective data available.

In the division on Retardation, the assumption was made that if two-thirds of the pupils were retarded on the average of one year, the situation would be about as serious as could be found in any community as a whole, and that if none of the pupils were retarded the policy on retardation would be excellent. This is simply a combination of the two factors which measure the retardation policies in a school, that is, percentage of pupils retarded and the average number of years' retardation of the retarded pupils. A study of eight school systems for

which complete data were available showed that a school which rated below 25 per cent had retardation policies which appreciably limited the educational opportunity of pupils within the system. Similarly, in the division on Adjustments to Varying Needs of Pupils, the assumption was made that every pupil in the system would require at least one adjustment per week in order that he might progress normally with the group.[4]

EXCLUSION OF ADMINISTRATIVE DEVICES

Many of the factors in elementary school organization are so dependent upon the method of administration and so correlated with other factors that it is virtually impossible to set up one device against another as an indication of what the elementary school is doing for individual pupils.

Among the factors that are not here included in the measures of elementary school organization, because of the variation in results under the same general plan, are the organization of classes and the placement of pupils through some plan of grouping, the plan of organization in so far as it affects the scheduling of classes and the placement of teachers, the system of supervised or directed study, and the organization of special classes for atypical pupils. These items are omitted on the assumption that the effectiveness of any plan of organization should be measured as nearly as possible in terms of its influence in the attainment of desirable purposes. For example, a school should not be given credit for homogeneous grouping unless such grouping is attaining desirable ends.

Again, although supervised and directed study is generally recognized as an effective device for securing a better learning situation, it does not necessarily follow that a good learning situation is assured by the presence of supervised study or denied by its absence. The results of the study activities of the pupils should be measured, not assumed.

The manner in which the rating scale deals with such a situation may be illustrated by a consideration of special classes for atypical children. If proper adjustments are made to the needs of all individual pupils, if no retardation is used as an adjusting device, if acceleration is utilized only under a program of guidance, and if differentiated

[4] See Mort, Paul R., *The Individual Pupil in the Management of Child and School*, Chapter VI. American Book Company, 1928.

TABLE I

ALLOTMENT OF POINTS TO THE VARIOUS ITEMS IN THE RATING SCALE*

	Staff Members of Colleges	School Officials	Graduate Students	Graduate Students Who Assisted
I. POLICIES GOVERNING PUPIL PROGRESS	*110*	*116*	*94*	*101*
A. Initial Entrance	22	24	26	24
B. Entrance from Schools	22	22	20	23
C. Progress	56	54	54	53
1. Acceleration	52	50	52	50
2. Retardation	48	50	48	50
II. ADJUSTMENTS TO VARYING NEEDS OF PUPILS	*172*	*187*	*170*	*180*
III. EDUCATIONAL ACTIVITIES	*268*	*264*	*332*	*311*
A. Classroom Activities	70	78	77	77
1. Flexibility	17	22	18	22
2. Breadth	17	18	20	21
3. Instructional Material	23	19	17	20
a. Accessibility	31	46	32	39
b. Adaptability and Adequacy	69	54	68	61
4. Continuity of Curriculum	12	13	14	12
5. Courses of Study	17	13	16	13
6. Results of Tests	14	15	15	12
B. Activities Outside Classroom	30	22	23	23
1. Athletics	34	42	39	40
2. Extra-curricular Activities	66	58	61	60
IV. SCHOOL ENVIRONMENT	*101*	*105*	*93*	*87*
A. Classroom	42	43	41	41
B. School Building	28	30	29	30
C. Playground and Gymnasium	30	27	30	29
V. SCHOOL MORALE	*105*	*112*	*87*	*106*
A. Classroom	59	59	58	59
B. Outside the Classroom	41	41	42	41
VI. SERVICES	*244*	*216*	*224*	*215*
A. Census and Attendance	10	9	9	9
B. Health Service	18	14	13	17
C. Instructional Service	18	17	20	16
D. Supervision and Research	19	23	20	20
1. Organization	52	62	53	50
2. Program	48	38	47	50
E. Safety of Pupils	10	10	9	11
F. Educational Records and Devices	25	27	29	27
1. Testing Program	45	53	50	50
a. Intelligence Tests	42	46	45	43
b. Achievement Tests	58	54	55	57
2. Educational Records	55	47	50	50
a. Social Information and Records	21	21	22	25
b. Physical Information	20	21	22	22
c. Teacher Judgment	19	21	18	21
d. Educational History	40	37	38	32

* Allotments made by 14 staff members of colleges, 15 school officials, 18 graduate students, and 23 graduate students who assisted in developing the scale.

Note: The Roman numeral divisions are expressed in points; the subdivisions under the Roman numeral divisions are expressed in terms of percentages of the divisions of which they are subdivisions. For example, the staff members of colleges gave Division I of the rating scale 110 points out of a thousand. On the average they judged that 22 per cent of these 110 points should be allotted to subdivision A, 22 per cent to subdivision B, and 56 per cent to subdivision C. Similarly, they judged that 52 per cent of subdivision C should be allotted to subdivision C1 while 48 per cent of subdivision C should be allotted to subdivision C2.

TABLE II

WEIGHTINGS ASSIGNED TO DIVISIONS OF THE RATING SCALE FOR ELEMENTARY SCHOOL ORGANIZATION AND RATING GIVEN TO TWO SCHOOL SYSTEMS IN SURVEYS

	Possible Score	Score Assigned	
		A New England School System	A Southern School System
I. PROGRESS AND ADJUSTMENT OF PUPILS	*300*	*65*	*117*
A. Policies Governing Pupil Progress	100	22	58
1. Initial Entrance	25	6	20
2. Entrance from Schools	20	10	15
3. Progress	55	6	23
a. Acceleration	30	0	12
b. Retardation	25	6	11
B. Adjustments to Varying Needs of Pupils	200	43	59
1. Low Ability	30	12	10
2. Unusual Proficiency	25	8	6
3. Special Disabilities	20	9	14
4. Health and Physical Defects	30	5	7
5. Correction of Deficiencies	25	2	10
6. Special Abilities	20	0	0
7. Social Needs	15	6	3
8. Other Educational Deficiencies	10	0	4
9. Limited Stay in School	15	1	0
10. Other Adjustments	10	0	5
II. EDUCATIONAL ACTIVITIES	*300*	*128*	*118*
A. Classroom Activities	230	95	100
1. Flexibility	45	18	5
2. Breadth	45	15	20
3. Instructional Material	45	27	30
a. Accessibility	15	10	10
b. Adaptability and Adequacy	30	17	20
4. Continuity of Curriculum	30	12	25
5. Courses of Study	35	16	15
6. Results of Tests	30	7	5
B. Activities Outside Classroom	70	33	18
1. Athletics	25	5	8
2. Extra-curricular Activities	45	28	10
III. SCHOOL ENVIRONMENT AND MORALE	*200*	*141*	*125*
A. School Environment	100	55	55
1. Classrooms	40	22	25
2. School Building	30	17	20
3. Playground and Gymnasium	30	15	10
B. School Morale	100	86	70
1. Classroom	60	56	40
2. Outside the Classroom	40	30	30
IV. SERVICES	*200*	*81*	*109*
A. Census and Attendance	20	12	10
B. Health Service	30	13	15
C. Instructional Service	35	12	30
D. Supervision and Research	40	15	15
1. Organization	25	8	10
2. Program	15	7	5

TABLE II (*Continued*)

	Possible Score	Score Assigned	
		A New England School System	A Southern School System
E. Safety of Pupils	20	15	15
F. Educational Records and Devices	55	14	24
1. Testing Program	25	6	9
a. Intelligence Tests	10	0	0
b. Achievement Tests	15	6	9
2. Educational Records	30	8	15
a. Social Information and Records	7	1	3
b. Physical Information	8	4	6
c. Teacher Judgment	5	1	1
d. Educational History	10	2	5
TOTAL	1000	415	469

curricula are offered to meet the varying needs of pupils, the organization of special classes will be necessary by the very operation of these factors. As they are all measured in the rating scale, it would be placing too great emphasis on this phase of the problem to rate schools again on their provision of special classes for atypical pupils.

RELATIVE WEIGHTINGS

Table I gives the weights assigned by 70 of the 105 people from whom weightings were requested. The major headings are expressed in points on a scale of 1,000. The subheadings are expressed in terms of percentage of the more general item to be assigned the given subitem. The table shows the average ratings of four groups: (1) members of the staffs of schools of education; (2) superintendents and school officials; (3) graduate students in elementary education and school administration; and (4) graduate students who assisted in the development of the scale. It will be noted that there is considerable uniformity in the ratings of the four groups, a fact that lends some weight to the reliability of the distribution of points.

APPLICATION OF THE RATING SCALE

Table II shows the possible score attainable on each item in the rating scale and the scores assigned each item in the rating scale

in two school systems. The results are not standards of attainment for each item but are rather indications of points of strength and weakness found in the organization of elementary schools in these systems. This is even more apparent in the Profile Chart illustrated previously in this article. The points assigned in no way invalidate the comparative ratings on individual items, regardless of the number of points assigned those items on the basis of 1,000 points. This comparative basis may be useful in evaluating items in the organization in succeeding years.

REFERENCES TO BIBLIOGRAPHY

The numbers in parentheses in the following refer to the bibliography on pages 48 f.; the numbers in italics refer to the *pages* in these references. This partial bibliography is given in amplification of the standards in the rating scale. It represents only a very small part of the material read in the development of the scale.

I. Progress and Adjustment of Pupils

A. Policies Governing Pupil Progress (4: *36-46*)

1. Initial Entrance (26: *92*)
2. Entrance from Schools (4: *70-71*, 26: *104*)
3. Progress
   a. Acceleration (11: *Chap. I*, 14, 15: *Chaps. I and II*)
   b. Retardation (7: *365-367*, 18: *160-178*, 26: *84-90*)

B. Adjustments to Varying Needs of Pupils (2: *37-93*, 4: *5-28*; *58-67*, 14, 15, 20: *195-265*)

1. Low Ability
2. Unusual Proficiency
3. Special Disabilities
4. Health and Physical Defects
5. Correction of Deficiencies
6. Special Abilities
7. Social Needs
8. Other Educational Deficiencies
9. Limited Stay in School
10. Other Adjustments

II. Educational Activities

A. Classroom Activities

1. Flexibility (3: *21*, 12: *197-198*; *261*, 19: *4-9*; *41*, 22: *32*; *68*; *74*)

2. Breadth (3: *21*, 8, 12: *197-198*, 18, 22: *30*; *74*; *80*, 33: *15*)
3. Instructional Material (7: *398*, 29: *324-326*, 30: *21*)
   a. Accessibility (19: *6*, 25: *3*, 28: *132*)
   b. Adaptability and Adequacy
4. Continuity of Curriculum (19: *86*, 22: *23*, 25: *43*)
5. Courses of Study (25)
6. Results of Tests (24)

B. Activities Outside Classroom
1. Athletics
2. Extra-curricular Activities (4: *56-57*, 10: *30*)

III. School Environment and Morale

A. School Environment (5: *114*, 16: *Chap. XXV*; 289, 17: *4*, 19: *4-7*, 29: *100*; *355*; *387*)
1. Classrooms
2. School Building (10: *15*, 1: *381*, 29: *354-387*)
3. Playground and Gymnasium (10: *176*)

B. School Morale (19: *106-107*)
1. Classroom (19: *6*, 23)
2. Outside the Classroom (33: *134*)

IV. Services

A. Census and Attendance (9, 10: *65-67*, 13: *125*, 15: *274*)
B. Health Service (5: *380*, 10: *210*, 14, 29: *240*, 30: *217-221*)
C. Instructional Service (7: *229*; 230, 10: *152*, 21: *53*, 25: *Foreword*, 29: *326-387*, 31: *57*)
D. Supervision and Research (3: *81*; *87*, 6: *50*; *Chap. XXII*, 29: *42-45*)
1. Organization (22: *6*; 48-*70*)
2. Program

E. Safety of Pupils
F. Educational Records and Devices
1. Testing Program (24, 2: *102-109*)
   a. Intelligence Tests
   b. Achievement Tests (27: *93*)
2. Educational Records (4: *29-35*; *74-93*, 5: *179*; *186*, 13: *125*; *431*, 29: *240*)
   a. Social Information and Records (14)
   b. Physical Information (14, 32: *171-231*)
   c. Teacher Judgment
   d. Educational History (14, 25: *17*)

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STUDIES IN THE LEARNING OF ENGLISH EXPRESSION

NO. IV. SENTENCE STRUCTURE*

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SENTENCE structure in a language is a key to the logic and structure of thinking, inasmuch as the sentence is the smallest complete unit of thought. Growth in the power to form complete, concise, balanced, consistent sentences is an index of the growth in clear and accurate thinking. The present article records the result of a detailed analysis of errors in sentence structure in compositions selected from composition scales so arranged as to show the improvement in sentence structure as one passes to writing of better quality. The error key, with a few changes and additions, was taken from Willing's *Valid Diagnosis in High School Composition.* The analysis of sentence structure was of necessity more subjective than the analysis for some of the more mechanical details of composition, but the point of view is consistent throughout, so that changes from one level of composition writing to another level represent *real* changes.

Table I gives the schedule with total usages and errors. Willing's tabulation is also included for purposes of comparison.

Compositions with a rating of less than 40 were often so incoherent as to be impossible of accurate analysis.

Most of the items under "Exclamations or other correct word

* This is the fourth article of the series "Studies in the Learning of English Expression." The first article, on Punctuation, appeared in the February 1929 issue of the TEACHERS COLLEGE RECORD; the second, on Capitalization, in the April 1929 issue; and the third, on Vocabulary, in the October 1929 issue. The same method used in the earlier studies has been employed in the present study of sentence structure.

Compositions which have been accurately placed on the Hillegas Scale, totalling 121,564 words, were analyzed both for certain points of correct usage and for errors.—EDITOR.

TABLE I

Sentence Structure

	Occurrence per Ten Thousand Words	
	This Study	Willing's
Correct Usage per 10,000 Words		
Complete sentence	523	..
Exclamation or other correct word group not a sentence	36	..
Pronoun with adequate reference	1158	..
Participles with adequate reference	92	..
Gerund phrases with adequate reference	25	..
Elliptical phrases with adequate reference	16	..
Adjective with adequate reference	900	..
Parallel construction correctly used	465	..
Errors, Faults and Omissions per 10,000 Words		
Incompleteness:	27	..
Nouns, alone or with modifiers, for sentences	4	3
Participial phrases for sentences	1	1
Prepositional phrases for sentences	1	2
Infinitive phrase for sentences	..	..
Dependent clauses for sentences	5	4
Missing subjects	8	3
Missing verb	3	2
Missing complement	1	..
Sentences too short	..	1
Miscellaneous	3	1
Overloadedness and Disjointedness:	64	..
Sentence with vague *so* clause	1	1
Sentence with unrelated or vaguely related clauses strung together with or without conjunctions ("Comma blunder" type not here)	24	41
Sentences separated by comma instead of by period or semicolon)	17	34
The "and" sentence (At least two *and's* joining clauses)	4	5
The "but" sentence. (At least two *but's* joining clauses)	..	1
The "so" sentence	1	..
The "then" sentence	1	..
Other rambling sentences	16	2
"Why" sentence	..	..
"Because" chain	..	..
Miscellaneous	..	..
Reference of Pronouns and Modifiers:	57	..
Weak, broad or divided references of pronouns	35	29
Dangling participles	7	1
Dangling gerund phrases	2	..
Dangling elliptical phrases	5	..
Indefinite *thus* or *so*	5	..
Reference of participle or adjective to a possessive	..	..
Miscellaneous	3	7
Arrangement of Parts:	53	..
Misplaced words, modifiers chiefly	21	4
Misplaced phrases	21	5
Misplaced clauses	8	1

TABLE I (*Continued*)

	Occurrence per Ten Thousand Words	
	This Study	Willing's
Split constructions	2	..
"Only" in wrong place	1	..
First personal pronoun first in a series	..	..
Miscellaneous	..	1
Parallel Structure:	29	..
Different parts of speech in series	3	1
Verbals not balanced	1	1
Phrases over against clauses	3	..
Words over against phrases and clauses	6	1
Clauses not balanced	14	..
Verbs not balanced as to voice	..	..
Miscellaneous	2	2
Point of View or Consistency:	38	..
Uncalled-for shift of subject	13	2
Uncalled-for shift in mode, modal aspect, or kind of conjugation	9	..
Uncalled-for time shift	6	6
Mixed construction	7	4
Confusion of direct and indirect discourse	2	..
Miscellaneous	1	5
Coordination and Subordination:	23	..
And versus *but*	3	1
Other confusions of coördinate conjunctions	2	..
Wrong subordinating conjunctions	3	1
Coördinate versus subordinate conjunctions	2	1
And between non-coördinates	12	..
Miscellaneous	1	1
Omissions:	31	..
That and *as if*	1	1
Prepositions	7	4
Articles	4	8
Conjunctions in comparisons	..	..
Other after *any* comparisons	..	..
Miscellaneous omissions in comparisons	1	..
Omitted *and* or *but* between words	2	1
Careless omissions	1	6
Nouns	4	..
Verbs	2	..
Relative pronouns	2	..
Personal pronouns	4	..
Adverbs	1	..
Adjectives	..	..
Miscellaneous	2	4
Repetitions—Wordiness:	64	..
Unnecessary repetition of same conjunction in sentence	4	3
Unnecessary repetition of relatives	1	2
Unnecessary repetition in general	18	9

TABLE I (*Continued*)

	Occurrence per Ten Thousand Words	
	This Study	Willing's
Careless repetitions	1	4
Careless leaving of superfluous words after correction	..	2
Nouns repeated instead of using pronouns	1	6
Double prepositions	2	..
Other redundancies	14	3
General tautologies	16	2
Miscellaneous	7	1
Errors of Logic:	33	..
Is where and *is when* clauses for predicate nouns	1	2
Discrepancies between subjects and predicate nouns or adjectives	2	3
Contradictions	1	..
Wrong word of *saying*	..	1
Impossibilities of fact	2	..
Undeveloped thoughts	15	3
Chronological order violated	12	..
Miscellaneous	..	6

groups not a sentence" are parts of letters: headings, salutations, etc. The Lewis Scale provided most of these items.

In counting the correct usage of various parts of speech with adequate reference, certain omissions were made. "Participles with adequate reference" does not include participles used as parts of verb phrases; for example, The ball was *lost*, or The little girl was *running*; nor does it include nominal participles, i.e., those originally derived from verbs but so commonly used as to have lost most of the verbal quality, if not all of it; for example, the *tired* child, a *bustling* town.

"Adjectives with adequate reference" does not include the adjectives *a* or *the*; does not recount participles already counted under another heading; does not count as adjectives the nouns, except those in the possessive case, which are used as adjectives (for example, the *boy* king); and does not recount pronouns used as adjectives, as they are listed elsewhere.

In the analysis each sentence has been considered a structural unity and the relation of one sentence to others in the same paragraph or composition has been ignored. Were sentences considered as a part

of a whole instead of being taken separately, additional counts would have been made under the following headings: the "so" sentence; the "then" sentence; weak, broad, or divided reference of pronouns; the indefinite "thus" or "so"; uncalled-for shift of subject, mode, or tense; unnecessary repetition; careless repetition; nouns repeated instead of using pronouns; other redundancies; contradictions; and violation of chronological order. The item "Sentence too short" could not be used at all without reference to the other sentences in a composition, hence was omitted from the count, although it was used by Willing. Many pronouns which are clear if reference is considered only within the single sentence may not be clear if reference is considered within the composition as a whole. Similarly, a sentence may be introduced by *so* properly enough, and can rarely be counted in error with such an introduction except when taken in relation to the other sentences of the composition. Shifts of subject and of time are frequently found within compositions although they may not appear with individual sentences.

Some allowance was made for misspellings. Examples: I saw *then* (them) drilling, too; Then it fell *it* (in) torrents; People *seen* (seem) to like them; There were *to* (two) ways home; As I was going *hose* (home), I met him; There were two *was* (ways) to go. Unless misspellings were interpreted as carelessness a false notion of sentence structure would be given, an impression of greater deficiency in ability to form sentences than actually exists.

Under "Sentences separated by comma instead of by period or semicolon" no error is counted if *three* or more closely related sentences are joined by commas. This is correct practice. For example, "The air was clear and cold, the snow sparkled, and above the gloom of the deep wood encircling the farm the great round moon was rising." The following, however, illustrates the comma blunder: "Suddenly he started to leap to earth, he then rested on my body, the longer he stayed there the heavier he became." On the same principle that three or more closely related sentences may be correctly joined by commas (that is, a series of balanced clauses such as *I came, I saw, I conquered*), it seems that to be consistent only one comma blunder should be counted for a sentence although more than two sentences might incorrectly be joined by commas within the limits of the sentence set by the writer of the composition. In

other words, the sentence as the writer of the composition set it down was considered as a unity; either it was correct, or (in the instance under discussion) it was a sentence illustrating the comma blunder. The same counting of error applies to "Sentence with unrelated or vaguely related clauses strung together with or without conjunctions." Such a sentence was counted as one error instead of three or four. By rearrangement of words and other slight changes, it could be made one correct sentence. For example, "Then my grandmother sent us the money to come in Detroit so in that time we leave a baby stepsister which her name was Janney and we call her beautiful angel when we left her to came here in Detroit she was one year old."

The reference of a participle or adjective to a possessive may be correct; for example, the *little* girl's ball or the *younger* child's toy. This item used incorrectly was noted less than once per 10,000 words.

By the dangling gerund phrase is meant a dangling prepositional phrase in which a gerund is the object of the preposition; for example, "In taking a trip travel is educational."

Under "Clauses not balanced" most of the items were independent clauses. There were almost no cases of dependent clauses which were not balanced. The question of the balance of independent clauses is largely a matter of rhetoric, unity, and emphasis, rather than lack of grammatically correct structure. Such lack of balance is the mark of the immature, ineffective writer. For example, "A fort was there and it was commanded by General Harris (instead of "The fort was under the command of General Harris," or "A fort, which was under the command of General Harris, stood there"); "A couple of miles further on we came to the district where the well-to-do people live and many fine mansions on either side of the street look as though they were vacant"; "Many men and women came in canoes and they asked us if we wanted to buy anything"; "We got here when it was dark and everything looked so strange to me the next day." In these sentences it is clear that one or more of the ideas is subordinate and should be presented in subordinate clauses or in participial or other phrases. Grammatically the sentences are correct; rhetorically, incorrect. Ideas which are not coördinate in meaning or relationship are presented in grammatically coördinate clauses and the result is a lack of balance.

Uncalled-for shifts of mode were, without exception, with the verbs *shall* and *will.*

One thing that this analysis does not reach is economy of phrasing—that fine economy practiced by the masters, in which each word is made to bear the full burden of its meaning, and no superfluous words stretch out the sentence. For example, the compositions have many such sentences as the following—structurally correct, but flaccid and ineffective: The horse looked around and his look seemed to say, "Anything for you." (The horse looked around as if to say, "Anything for you."); "In the morning she looked out of the window and she saw them." Etc.

Charts 1 to 6 show certain facts concerning the development of the ability to write accurate, complete, well-balanced sentences.

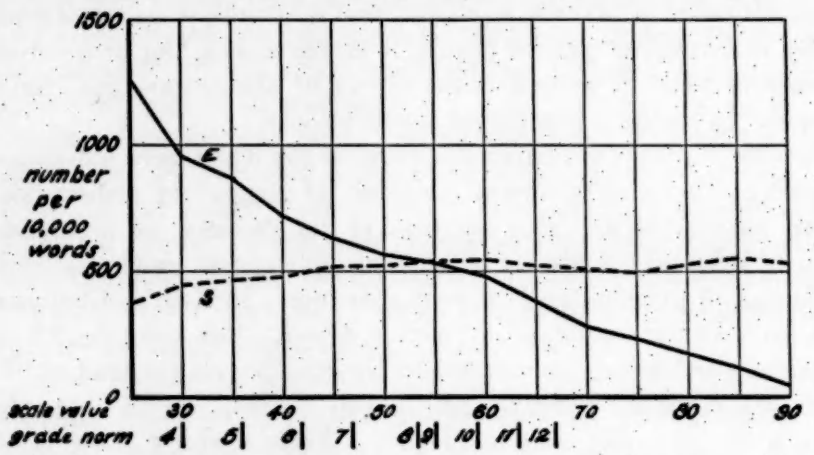

CHART 1.—S. Complete Sentences. E. Total Errors in Sentence Structure.

Chart 1 shows the ratio of errors and faults in sentence structure to the total number of sentences used. In the fourth grade there are on the average about two errors or faults to every sentence. This ratio gradually decreases until, about the eighth or ninth grade, there is approximately one error or fault to every sentence. The trend continues as the quality of the compositions improves. It is apparent that sentence structure is one of the most significant signs of the general quality of writing.

Chart 2 pictures the use of pronouns and adjectives with adequate reference. The use of pronouns in writing is high up to the ninth-

grade level and then decreases. After that time writing begins to take on a more impersonal and abstract nature with less reference to personal incidents. The trend of the use of adjectives, on the other hand, is exactly the reverse. Adjectives are used more and more freely as the quality of writing improves. Reference to this was made in the article on vocabulary.[1] In connection with Chart 2, the reader should refer to curve 3 of Chart 4—errors in the refer-

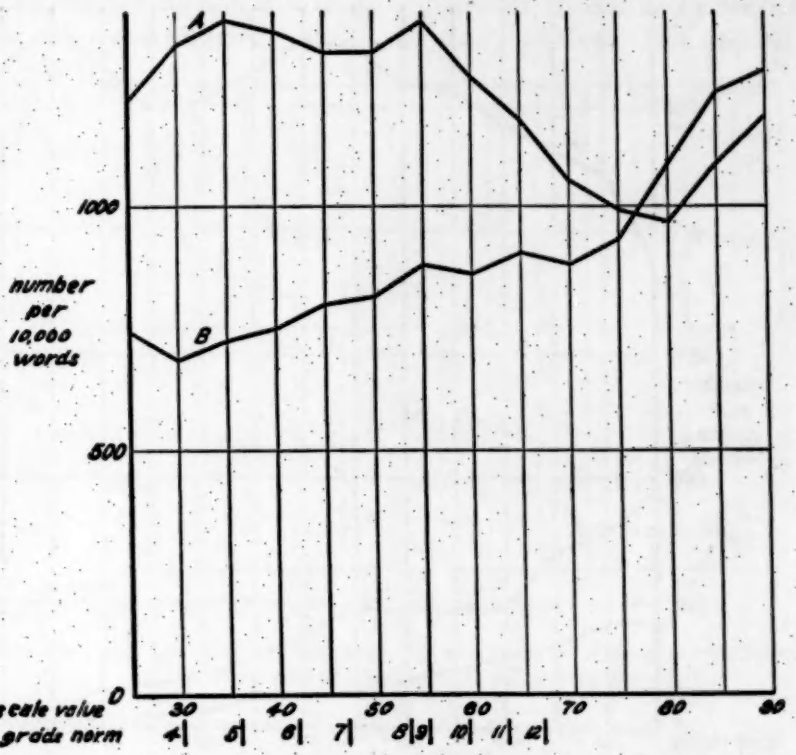

CHART 2.—A. Pronouns with Adequate Reference. B. Adjectives with Adequate Reference.

ence of pronouns and other modifiers. Here there is shown a steady drop in error, particularly in the sixth and seventh grades.

Chart 3 shows the relative frequency of complete and incomplete sentences for compositions of different quality. If we combine the frequency of curves 1 and 2, it is evident that in the fourth grade for every two correctly formed sentences there is one incomplete or

[1] TEACHERS COLLEGE RECORD, October, 1929.

overloaded sentence. In the sixth grade the ratio of complete sentences to incomplete and overloaded sentences is three to one. The analysis indicates that there is very little improvement in the "sentence error" from the sixth to the ninth grade.

In general there is regular improvement in each error or fault as the compositions improve in quality. An exception to this is found in the matter of arrangement of parts shown in Chart 4. There

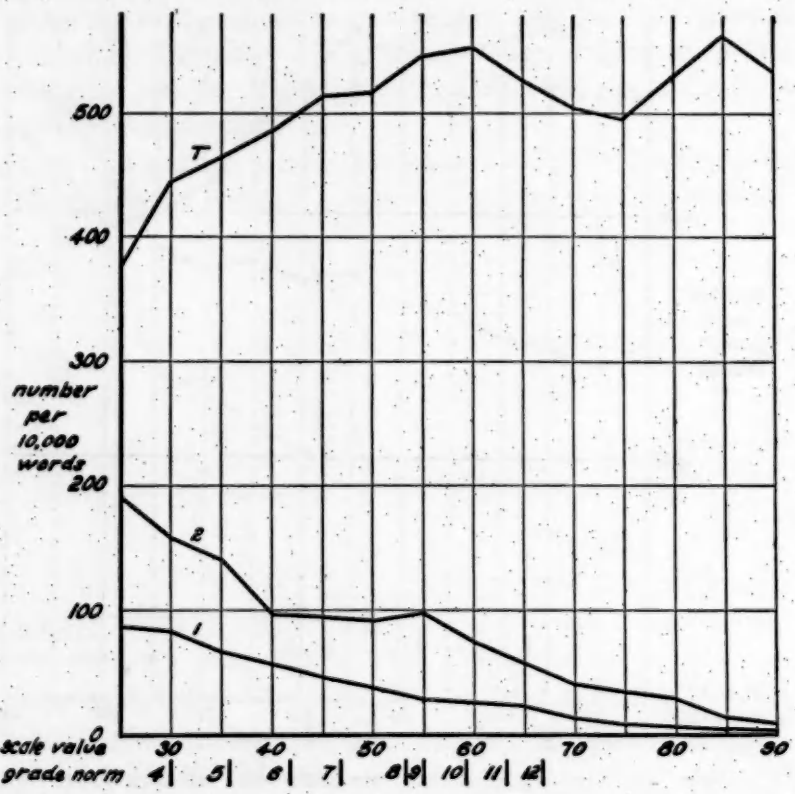

CHART 3.—Errors in Sentence Structure. T. Complete Sentences. 1. Incompleteness in Sentences. 2. Overloadedness and Disjointedness.

seems to be a steady increase in errors of this type from grade five through grade ten. Reference to the more detailed analysis shows this to be due to misplaced words, chiefly modifiers. Misplaced phrases and clauses about hold their own. This error in placement of words may be attributed to the pupil's experiments with variations in sentence order, resulting in crudity and awkwardness of

expression. Perhaps instruction has been weak in this respect through failure to set standards for acceptable variation in sentence form.

Decrease in errors in logic is particularly apparent in grades five and six. (Chart 6.)

Table II gives the rank of specific errors or faults in sentence structure for each school grade, together with the frequency of error per 10,000 words. No error has been ranked whose frequency per 10,000 words is less than 4. This table should be of service to those who are planning courses of study or texts in composition.

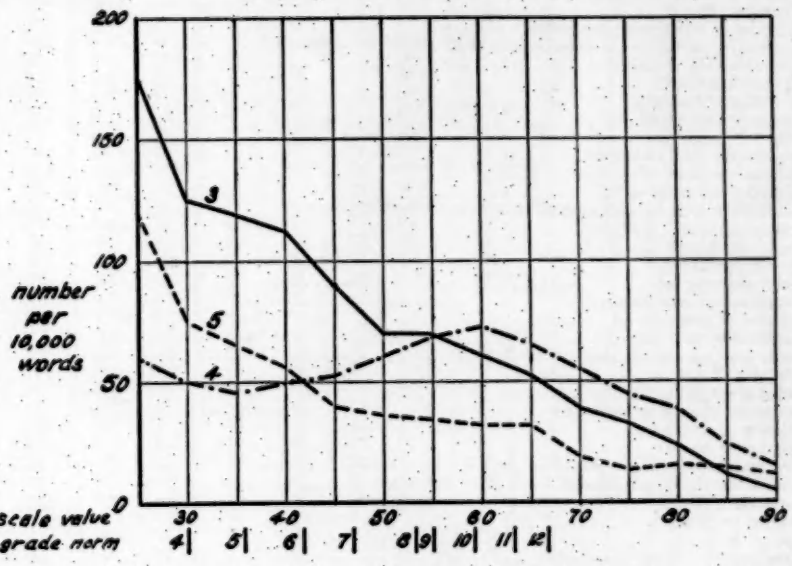

CHART 4.—Errors in Sentence Structure. 3. Reference of Pronouns and Modifiers. 4. Arrangement of Parts. 5. Parallel Structure.

Psychology teaches that it is not the best policy to try to cover all the principles in a subject but to take up and stress only those of most importance. Table II enables the teacher to determine which items of sentence structure are of most importance.

It is interesting to note the shifts in position as one ascends through the grades. Certain errors have large frequency throughout. Weak, broad, or divided reference of pronouns is the most prominent error in sentence structure throughout the whole school program, maintaining either first or second place. Vaguely related clauses strung together with or without conjunctions constitute also

TABLE

RANK FOR EACH SCHOOL GRADE OF

Numbers in parentheses indicate number

	(Rank) 30	36
	(Grade) 4th	5th
Weak, broad, or divided reference of pronouns	2 (83)	2 (71)
Sentence with unrelated or vaguely related clauses strung together with or without conjunctions—("Comma Blunder" type not here)	1 (102)	1 (88)
Misplaced words, modifiers chiefly	19.5 (16)	15 (18)
Misplaced phrases	15 (21)	19 (15)
Unnecessary repetitions in general	6 (37)	4 (36)
Sentences separated by comma instead of by period (or semicolon)	12 (27)	10 (27)
Other rambling sentences	26 (11)	28 (10)
General tautologies	23 (13)	19 (16)
Undeveloped thoughts	3 (57)	3 (41)
Clauses not balanced	4 (41)	7 (30)
Other redundancies	13.5 (23)	11 (25)
Uncalled-for shift of subject	8 (30)	9 (28)
And between non-coördinates	7 (34)	6 (31)
Chronological order violated	5 (39)	5 (34)
Uncalled-for shift in mode, modal aspect, or kind of conjugation	19.5 (16)	23.5 (12)
Missing subjects	13.5 (23)	13 (22)
Misplaced clauses	28.5 (10)	32 (9)
Dangling participles	17.5 (18)	14 (20)
Mixed construction	9.5 (29)	12 (23)
Miscellaneous repetitions	9.5 (29)	8 (29)
Omission of prepositions	11 (28)	16.5 (16)
Uncalled-for time shift	21.5 (15)	19 (15)
Words over against phrases and clauses	21.5 (15)	21.5 (14)
Indefinite *thus* or *so*	28.5 (10)	28 (10)
Dangling elliptical phrases	41 (5)	41 (5)
Dependent clauses for sentences	17.5 (18)	16.5 (16)
Omission of articles	24.5 (12)	28 (10)
Omission of nouns	28.5 (10)	21.5 (14)
The "and" sentence (At least two *and's* joining clauses)	28.5 (10)	23.5 (12)
Careless leaving of superfluous words after correction		28 (10)
Nouns alone or with modifiers, for sentences	24.5 (12)	28 (10)
Personal pronouns	37.5 (6)	32 (9)
Missing verb	41 (5)	41 (5)
Miscellaneous. (Incompleteness)	16 (20)	36.5 (7)
Different parts of speech in series	31.5 (9)	34.5 (8)
Phrases over against clauses	34 (8)	25 (11)
Miscellaneous (Reference of pronouns and modifiers)	36 (7)	32 (9)
Wrong subordinating conjunctions		38.5 (6)
And versus *but*		
Relative pronouns		
Split constructions		
Miscellaneous. (Omissions)	34 (8)	41 (5)
Coördinate versus subordinate conjunctions		45.5 (4)
Miscellaneous (Parallel structure)		
Omitted *and* or *but* between words	41 (5)	
Dangling gerund phrases		45.5 (4)
Omission of verbs		38.5 (6)
Confusion of direct and indirect discourse	37.5 (6)	36.5 (7)
Impossibilities of fact	34 (8)	34.5 (8)
Double prepositions	41 (5)	45.5 (4)
Contradictions	31.5 (9)	
The "then" sentence		
Careless omissions		45.5 (4)
Nouns repeated instead of using pronouns		45.5 (4)
Sentences too short		

II

ERRORS IN SENTENCE STRUCTURE

of occurrences per 10,000 words

42	47	53	55	59	63	67
6th	7th	8th	9th	10th	11th	12th
1 (68)	1 (61)	1 (41)	1 (41)	1 (34)	1 (32)	2.5 (22)
2 (47)	2 (37)	2 (33)	2 (33)	6.5 (21)	9 (14)	15.5 (6)
10.5 (22)	6 (23)	5.5 (27)	4 (28)	3 (28)	2.5 (25)	1 (23)
16.5 (15)	11.5 (18)	9 (21)	6 (24)	4 (26)	2.5 (25)	2.5 (22)
3 (35)	3.5 (31)	5.5 (27)	7.5 (22)	8 (20)	7.5 (15)	8 (10)
7 (25)	5 (27)	4 (28)	3 (30)	6.5 (21)	5 (17)	6.5 (11)
21.5 (11)	14 (15)	10.5 (19)	7.5 (22)	5 (23)	4 (20)	4 (16)
14 (17)	8 (21)	7 (26)	5 (26)	2 (32)	7.5 (15)	5 (12)
4 (30)	8 (21)	8 (24)	9.5 (20)	9 (18)	14 (9)	10.5 (8)
5 (26)	10 (19)	12 (18)	11.5 (18)	10.5 (17)	14 (9)	9 (9)
9 (23)	8 (21)	10.5 (19)	9.5 (20)	10.5 (17)	6 (16)	6.5 (11)
7 (25)	11.5 (18)	13.5 (14)	11.5 (18)	12.5 (16)	10 (13)	4 (9)
7 (25)	3.5 (31)	3 (29)	13 (15)	14.5 (13)	16 (8)	15.5 (6)
10.5 (22)	16 (14)	13.5 (14)	14.5 (14)	12.5 (16)	12 (10)	12.5 (7)
24 (10)	18.5 (11)	15 (12)	14.5 (14)	16 (12)	11 (11)	10.5 (8)
12 (20)	14 (15)	17 (10)	21.5 (7)	23.5 (5)	20.5 (5)	
24 (10)	26 (8)	17 (10)	16 (11)	14.5 (13)	14 (9)	12.5 (7)
13 (19)	23 (9)	23 (8)	21.5 (7)	17 (9)	17 (7)	15.5 (6)
15 (16)	20.5 (10)	20 (9)	19 (8)	20 (6)	18.5 (6)	19 (4)
18.5 (14)	17 (12)	20 (9)	19 (8)	20 (6)		
18.5 (14)	20.5 (10)	25.5 (7)	27.5 (5)	30.5 (4)		
20 (13)	14 (15)	25.5 (7)	27.5 (5)	30.5 (4)	26 (4)	19 (4)
24 (10)	23 (9)	20 (9)	19 (8)	23.5 (5)	26 (4)	
28 (8)	28.5 (7)	23 (8)	17 (9)	17 (7)		
31.5 (7)	31.5 (6)	23 (8)	24 (6)	20 (6)	18.5 (6)	15.5 (6)
16.5 (15)	18.5 (11)	17 (10)	24 (6)			
31.5 (7)	31.5 (6)	29 (5)	33.5 (4)	30.5 (4)	26 (4)	
28 (8)	23 (9)	35 (4)	33.5 (4)	30.5 (4)		
21.5 (11)	26 (8)	35 (4)	24 (6)	30.5 (4)		
31.5 (7)	26 (8)	35 (4)	27.5 (5)	23.5 (5)	26 (4)	
28 (8)	31.5 (6)	29 (5)	33.5 (4)	30.5 (4)	26 (4)	
26 (9)	28.5 (7)	29 (5)	27.5 (5)	30.5 (4)	26 (4)	
40.5 (5)	38 (4)	29 (5)	33.5 (4)	23.5 (5)	26 (4)	
40.5 (5)						
35 (6)						
31.5 (7)	38 (4)					
35 (6)			33.5 (4)			
40.5 (5)	38 (4)			30.5 (4)	26 (4)	
40.5 (5)	31.5 (6)	35 (4)	33.5 (4)	30.5 (4)		
40.5 (5)	34 (5)	29 (5)				
			33.5 (4)	30.5 (4)	20.5 (4)	
45 (4)						
35 (6)		35 (4)		30.5 (4)	26 (4)	
40.5 (5)	38 (4)					
40.5 (5)	38 (4)	35 (4)				
40.5 (5)						
	38 (4)	35 (4)	33.5 (4)			
	38 (4)					

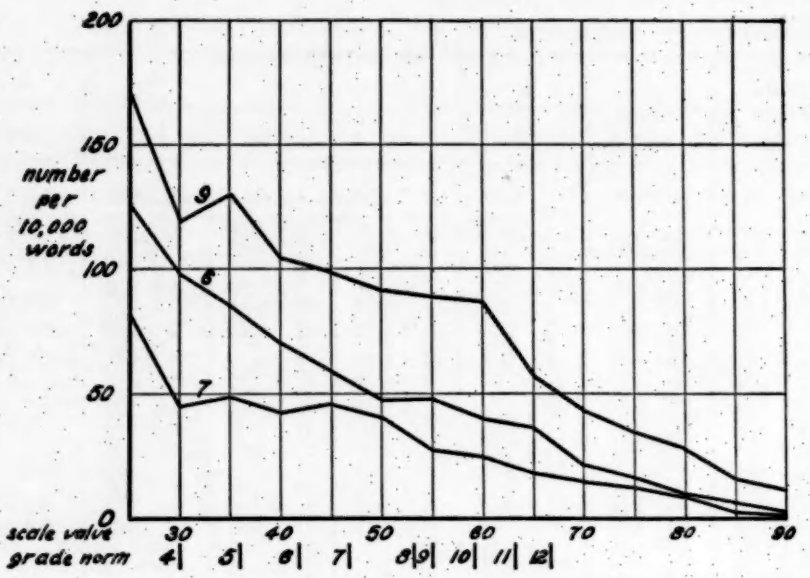

CHART 5.—Errors in Sentence Structure. 6. Point of View of Consistency. 7. Coördination and Subordination. 9. Repetitions—Wordiness.

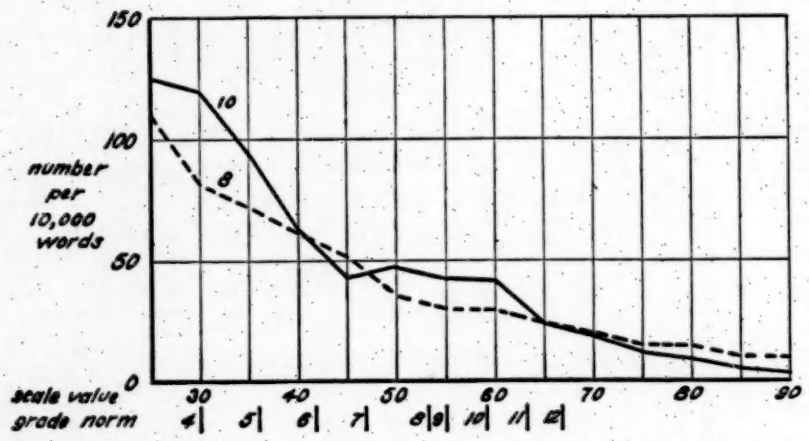

CHART 6.—Errors in Sentence Structure. 8. Omissions. 10. Errors of Logic.

a common fault through the ninth grade, after which time they begin to yield in importance to other errors. Some errors, of which misplaced modifiers are an example, assume greater importance in the later years in school, while others such as "clauses not balanced" are more serious in the early grades.

In general, however, an error tends to maintain the same relative position. It seems strange that the "comma blunder" error should persist so prominently throughout the whole program. One can hardly believe that no learning takes place in separating two distinct sentences. Probably what happens is that even with more mature thought and expression the problem still remains and the old tendency of running sentences together tends to reassert itself. This would appear to be a skill that must be learned afresh at each new level of writing.

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NEW STUDIES IN EDUCATION

RADIO AND ELECTRIC POWER SUPPLY EQUIPMENT FOR SCHOOLS*

THIS study deals with electrical equipment used for instructional purposes. The particular kinds of equipment considered are those associated with (1) school radio installations, and (2) electric power supply for physics, chemistry, biology and general science rooms. This investigation undertakes to furnish school administrators with information to guide them in selecting equipment and in placing installations, and to inform manufacturers of the needs of the schools which their products must satisfy.

For both the radio and the power supply equipment data were obtained through interviews, by the use of questionnaires, from the study of plans and specifications, by inspection trips to schools and research laboratories, and from analysis of published literature. From the study of needs and ways of meeting them, lists of desirable characteristics of each item of equipment were developed. These lists were submitted to experts for review. With due consideration of the educational implications and the technical difficulties involved, several installations of different degrees of elaborateness were suggested.

Experiences of educators who have used radio equipment in schools seem to indicate that a centralized audio frequency distribution system with loud speakers in the various classrooms is desirable; that the input equipment should include a radio receiver, a microphone, a phonograph, and facilities for connecting with the city telephone lines; and that adequate provision must be made to minimize the chances of equipment being stolen or damaged.

The part of this study devoted to radio includes important considerations in determining the advisability of making a radio installation as well as discussion of the various types of installations and the desirable characteristics of all the major items of equipment which are included in the complete systems.

Some of the tendencies in science teaching which must be considered in determining the proper electric power supply for science rooms are (1) the inclusion of a large number of practical topics, (2) the placing of an increasing amount of emphasis on teacher demonstrations, (3) the encouragement of a broad choice of subject matter, and (4) the employment of a variety of teaching methods.

CONCLUSIONS

The following are some of the requirements revealed by this study:

Physics. A maximum of 20 amperes is ample for the 110 volt single-phase al-

* By Edward C. Blom, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 409.

ternating current supply for the lecture-room, laboratory, and shop. The lecture-room should be supplied with alternating current at 110 volt and 220 volt levels and provision made for obtaining lower voltages when desired. The 220 volt level should be three-phase alternating current. Direct current at 110–115 volt levels and also at 12–15 volt levels should be available in the laboratory and the lecture-room. A central distribution panel board is a desirable part of the equipment.

Chemistry. In the chemistry laboratory there should be (1) 110 volts, 15 amperes alternating current; (2) 110 volts, 10 amperes direct current; and (3) 6 volts, 30 ampere-hour storage battery current.

Biology. The house lighting power supply and a few dry cells are ample for the biology rooms.

General Science. Because of the broad field which general science covers it is advisable to have facilities for furnishing the demonstration tables with all kinds of electric current which are available at the master panel board in the physics laboratory. These should include 110 volt level alternating current and direct current, and 6 to 12 volts of storage battery current.

CONTENT AND FORM OF ORIGINAL COMPOSITIONS DICTATED BY CHILDREN FROM FIVE TO EIGHT YEARS OF AGE *

THIS study of the original, dictated compositions of young children has two objects. The first is to discover some characteristics of their content and form. What situation stimulates a story response? What form does the dictated story take? Are there wide differences between boys and girls in these concepts and forms? Are there significant differences between age levels in these concepts and forms? The second is to discover what provision is made in present practice for the stimulation and guidance of the characteristics common to these dictated stories.

The materials for the study were secured by offering to take down and return in a usable form children's own stories or poems. This offer was made by amanuenses, strangers to children in sixty-six kindergarten, first, second, and third grade classrooms believed to be representative of the public school population. The stories were recorded in longhand and read back to the children to give them an opportunity to make desired changes. Twelve hundred fifteen compositions secured in this manner from five-, six-, seven-, and eight-year-old children were analyzed for this study.

The materials for the study of modern practice were confined to: ten courses of study rated by Stratemeyer and Bruner as "very good or above," twelve English textbooks published within the past seven years, ten books on methods of composition written by leading authorities in the field and published within the past seven years.

Study of items relative to content of the compositions was confined to: amount of variety and duplication in themes, characters about which the stories were told, style of treatment of the

* By Jean Betzner, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 442.

main idea, source of subject matter used, and type of relationships shown.

Study of items relative to form of the compositions was confined to: length determined by number of units of thought, items in organization, use of titles, type of patterns, consideration of time sequence and conclusive endings, presence of repetition, characterization, conversation, pleasing names and unusual phrases, motor and sense impressions.

Comparisons of differences in amount of use of the discovered items relative to content and form were made between age levels and between boys and girls.

Examination of courses of study and textbooks was confined to the frequencies of opportunities offered for oral story composition and the limitations imposed upon it. The study of the books dealing with methods of teaching was confined to points of view in regard to guidance of oral story telling.

In matters of content, children of five, six, seven, and eight years of age, when given the opportunity to dictate stories or poems, respond with greater variety than duplication of themes; with more realistic narratives told seriously and non-rhythmically than any other form; with compositions showing the use, to a large degree, of experiences gained from first-hand contacts and, to a less degree, imaginative experiences and those obtained from literature.

In matters of form, these children respond with compositions varying in length from 9 to 1,074 words and with a median length of 66.6 words. They respond with compositions varying in number of units of thought from 1 to 69, the median number of units of thought being 7.25. Compositions are given titles. Time sequence is observed. Conclusive endings are used. Repetition, characterization, conversation, and unusual phrases are common enough to merit attention. The motor aspect of experiences receives more attention than those aspects which relate to the senses. A small number of compositions contain expressions conveying sound impressions.

The following characteristics appear to *increase* with the increase in age: variety in theme, the imaginative and serious treatment of theme, the utilization of second-hand source material, the relationship of punishment to wrongdoing, the number of words and the number of units of thought, use of titles, connected episodes showing cause and effect, time sequence, conclusive endings, repetition to increase impressions, and direct discourse.

The following characteristics appear to *decrease* with the increase in age: duplication of theme, use of animals as main characters, realistic treatment of theme, use of unconnected episodes, violation of time sequence, and inconclusive endings.

The greatest differences between the compositions of boys and girls, in the items of content and form examined, are found in their choice of main characters, in the realistic and imaginative treatment of themes, and in the treatment of wrongdoing.

Present practice, as represented here, is strongly marked by the following characteristics: limitation in variety of themes and their treatment; limitation in variety of story-patterns; exact, arbitrary assignment of the number of sentences to be used in a given composition. Present practice devotes more attention to the reproduction of the ideas and patterns of others than to guidance in handling original themes and self-chosen patterns.

CONCLUSIONS

The attention of curriculum makers and teachers should be focused on the development of more desirable composition items and on securing conditions more conducive to the production of desirable features of story composition than the conditions furnished in this study.

Artificial and elaborate devices for securing original stories should be questioned.

The hearing side of story composition as a means of improving it merits the attention of those interested in improving children's compositions.

The practice of recording young children's dictated compositions serves as an aid in understanding children.

The emphasis now placed on personal experience compositions might well be reduced.

Provision might well be made for increased contact on the part of young children with literature that can be understood and utilized as experience rather than merely reproduced or imitated.

Provision might well be made for an increase in the range of first-hand experiences as a means of increasing the range of ideas utilized in compositions.

Emphasis upon the essay form of compositions for young children might well be reduced.

The data consisting of records of children's choices of story subjects and story-patterns merit attention when children's preferences in stories are being considered.

GENERALIZATION OF BRIGHT AND DULL CHILDREN*

A COMPARATIVE STUDY WITH SPECIAL REFERENCE TO SPELLING

THE present study was organized with the idea of uncovering through the medium of a school subject, spelling, the comparative ability of bright and dull children to generalize. There are three main lines of approach: (1) through an analysis of the kinds of spelling errors made; (2) through an analysis of the syllable placement of the errors and of the incidence of errors with respect to the length of words in terms of syllables; (3) through a phonetic analysis of the misspelled words.

The raw data used in this experiment were gathered in Public School No. 210, Brooklyn, where the children are systematically sectioned on the basis of IQ's and other criteria. The brightest section and the dullest section in each of three grades, IVA, IVB, and VB, were chosen as subjects. The mean IQ of the three bright sections was found to be 124.9, and of the three dull sections, 92.0. Each of the two groups, after some elimination, numbered 100.

In order to present to the subjects a situation which was at least comparatively novel, the main test words, numbering 320, were taken from the grade one year in advance of the child's present status. However, in order to meet the objection that the results would have been quite different had the children been asked to spell words on their own grade level, it was decided to give a sample of 100 such words to 10 children selected at random from each of the six sections. Very little difference was found to exist

* By Herbert A. Carroll, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 439.

between the two tests, either in the kind or in the phonetic quality of the errors made.

CONCLUSIONS

Briefly summed up, this investigation comes to the following main conclusions:

1. Bright and dull children show marked differences in degree in the kinds of spelling errors which they make.

(*a*) The bright make a higher percentage of single letter errors.

(*b*) The dull make a higher percentage of group errors.

2. Bright and dull children are affected differently by the length of the word and by the position of the syllable.

(*a*) The bright have a lower percentage of difficulty with the shorter words and a higher percentage with the longer words.

(*b*) The bright have a lower percentage of difficulty with the first part of a word and a higher percentage with the middle and last parts.

3. The bright children are much more likely than the dull ones to spell words phonetically.

4. The psychological explanation of each of these differences appears to lie in the marked superiority in phonetic generalization ability of the bright over the dull.

The above findings bear out the thesis that intelligence is an important factor in generalization in spelling. Whether or not the same condition exists in other school subjects is not definitely known. If, as Gates says, intelligence is generalization—the same idea is advanced by Thorndike in his study of Mental Discipline in High School Studies—then it follows that the bright children will generalize to a greater extent than the dull in every situation.

THE SIGNIFICANCE OF VARIOUS KINDS OF PREPARATION FOR THE CITY ELEMENTARY SCHOOL PRINCIPALSHIP IN PENNSYLVANIA*

WITH IMPLICATIONS FOR A PROGRAM FOR PREPARING FOR THE ELEMENTARY SCHOOL PRINCIPALSHIP

HOW do the salary, efficiency, experience, sex, age, character of the school, mobility, and other factors vary according to the preparation of the elementary school principal? What preparation is most desirable? What is the status of Pennsylvania principals as compared with elementary school principals throughout the country? This study answers the foregoing questions and others of a like nature.

The data were secured from two questionnaires, one prepared and sent out by Dr. J. A. H. Keith, Superintendent of Public Instruction in Pennsylvania, the other prepared and sent out by the author under Dr. Keith's signature. In addition, a letter was sent to the city superintendents in the commonwealth requesting them to rank their principals according to their success. A list of qualifications generally believed to be desirable was enclosed and the superintendents were requested to indicate which of the traits listed each principal possessed or lacked in large measure. Data

* By Marion E. Macdonald, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 416.

from a group of former principals were also studied to determine the preparation of persons lost to the principalship.

The principals were grouped according to state certification, which is well standardized in Pennsylvania. The three groups include (1) principals having standard certification, (2) principals having normal certification, and (3) principals having college certification.

CONCLUSIONS

Some of the findings revealed in this study are summarized as follows:

1. Standard- and normal-certificated principals are much alike as regards the following: credits earned in service, salary, size and character of school, activities, clerical assistance, satisfaction in the principalship.

2. Normal- and college-certificated principals are comparable as regards the following: certification of classroom teachers, credits earned by classroom teachers while under the supervision of present principals.

3. College-certificated principals surpass, significantly, standard- and normal-certificated principals as regards the following: number of desirable education courses taken, preparation, in-service education, success, amount of time given to supervision, salary, early appointment to the principalship, clerical assistance.

4. College-certificated principals also differ significantly from standard- and normal-certificated principals in that they are: less experienced, younger, more mobile, in charge of larger schools, not content to remain in the work of the elementary school principalship under present conditions.

5. Men principals are much better prepared than women principals.

6. Although the salaries of men principals are higher than those of women principals in each of the three groups, the salaries of college-certificated principals irrespective of sex are very much higher than those of either of the other two groups, notwithstanding the fact that college-certificated principals are younger and less experienced than either standard or normal-certificated principals.

7. Superintendents recognize preparation as an outstanding qualification of elementary school principals.

8. The courses in education, arranged in order of importance, which are regarded by principals as most helpful in their work are: supervision, administration, tests and measurements, technique of teaching, child and adolescent psychology, educational psychology, the principal, psychology of elementary school subjects, principles of education, and classroom management.

9. A much larger percentage of college-certificated principals have had each of the aforementioned courses than either of the other two groups, the normal-certificated group surpassing the standard-certificated group in this respect.

10. Whereas college-certificated principals continue to earn in-service credit, the most poorly prepared principals grow least in service.

The study contains thirty-four tables and nine graphs which enable the reader to take in many of the significant findings at a glance. The author makes sixteen recommendations which apply to Pennsylvania in particular and to the country at large as well, since the status of elementary school principals in that state is comparable in many respects to that of principals throughout the country.

SOME FACTORS IN THE UNDERGRADUATE CAREERS OF YOUNG COLLEGE STUDENTS*

WITH a growing number of younger students seeking admission to college, the question arises as to the feasibility of admitting freshmen who have not reached a specified chronological age. By utilizing data secured from the official records of Columbia and Barnard Colleges, library sources, student publications, questionnaires, and personal interviews with college officers and former students in the metropolitan area, the following findings with respect to the question were made available.

In the main, college authorities are friendly to the idea of students being admitted to college as soon as they are mentally mature enough to meet the entrance requirements.

The studies reported showed the younger students to be better developed intellectually than the average groups and, because of their superior native ability, to achieve more scholastic success and recognition, and to be found more frequently listed in "Who's Who" after graduation.

Of the former students who had gone through the experience of meeting the problems created by their youth, the large majority indicated that they had profited from their higher education in spite of the crises which they met.

State colleges and universities, judging from a representative sampling of their catalogues, considered minimum entrance age requirements to a greater extent than did private and parochial institutions, but higher institutional accrediting agencies no longer gave the matter concern. A number of states had statutes on their books which regulated not only the age at which students could be admitted to their higher educational institutions but also the age at which they would be eligible for scholarships. Two states had laws which specifically provided against anyone being excluded from their institutions of collegiate grade because of age.

The records of one hundred fifty-four students, all of whom were under sixteen years of age, and who entered Columbia or Barnard Colleges over a five-year period, showed them to be superior in intelligence to their own group and to undergraduate bodies as a whole. As a group, they came to college better prepared, exceeded their older fellows in scholarship, suffered fewer failures, and were awarded more academic honors. They participated more extensively in athletic and non-athletic extra-curricular activities than a similar number of students chosen at random and making up a control group, and gained more recognition in those directions. Compared to this group they were also better developed physically, for their ages, and had required no more medical attention than the members of their control group who were on the average two years older.

The statistical treatment of the data revealed no significant correlations between age and intelligence, scholarship, physical measurements, or number of extra-curricular activities of the individual, these findings being partially sub-

* By Howard A. Gray, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 437.

stantiated by other investigations. It was found that the intelligence test score was the best single criterion of the ones considered to predict the scholastic success of the young student, and from the results of other studies this score can be combined with the high school record, or entrance examination, with still better results.

As for the significance which these findings have for collegiate institutions, it may be stated that no set rules or regulations can be safely established for deciding the admission fate of the applicant who is younger than those who ordinarily apply. That he is usually an exceptional individual intellectually by virtue of having completed his secondary preparation in less time than is required by the average or mediocre student is evident, and the indications are that he will make the necessary social adjustments which are thought to be important along the line of scholastic achievement. With his intelligence score, high school record, and other information made available from a personal interview, there is no necessity for following stereotyped procedures in disposing of his case. In fact, it is paradoxical for a state or institution ostensibly fostering a progressive educational program, and advocating equal educational opportunity for all desiring to take advantage of it, to institute regulations which prevent the gifted student from completing his higher education as soon as possible in order that he may have a longer period of time actually to participate in world affairs, freed of academic fetters.

TEACHERS COLLEGE *in the* NEWS

COMPILED BY CLYDE R. MILLER
DIRECTOR, BUREAU OF EDUCATIONAL SERVICE

"Teachers College, as an institution, holds no position, advocates no theory of education. It selects its faculty and, as every such institution must, permits each member untrammeled to present whatever his reflections and his researches lead him to believe."

Summer Session Makes New York Education Capital of Nation

The Summer Session of 1930 was as popular as ever—perhaps more so. Dr. John J. Coss, Director of the Columbia University Summer Session, had an article in the *New York Times* about this significant phase of American adult education:

From every state in the Union and from forty-seven foreign countries 14,000 students come to Columbia University each summer, work for six weeks in something like 1,000 courses and then vanish overnight. This educational city springs into being because New York itself attracts it and because Columbia University, from the time when President Butler founded the Summer Session some thirty-one years ago, has more and more met the needs of a very wide variety of persons who want to study during the summer.

For all these students the Summer Session fills a very specific need. The time is short, the work is concentrated, instruction expert, and the companionship stimulating. Many a mature person, long out of school, who has six weeks to spend in some interesting fashion finds relaxation as well as stimulation in the concentrated effort which he devotes to a course in English or history, or a study of the evolution of man.

Who comes to the Summer Session? Graduate students in greater numbers than ever gathered in any other place at any time of the year. By all odds the largest part of these graduate students study education; but many come to work in mathematics, the languages, chemistry, physics, history, government, sociology, philosophy, psychology, anthropology, music, the fine arts and a dozen other special divisions within the field of knowledge. These students are working for higher degrees, and the summer study puts them further along the high road of professional standing.

In the summer many clergymen study in the classes in Union Theological Seminary. Librarians seek further instruction in the various branches of their widening work. Instructors in physical education whose knowledge must be constantly increased; specialists who conduct every sort of dining room and know how to feed the young and the old; students of rural education; sociologists who are interested in the normal and the abnormal in human society; all these and literally scores of other specialists come to the Summer Session.

To it also come men and women engaged in educating a very large part of the children of the United States. There are lectures and demonstrations for the teachers of every level of public education—the nursery school, the kindergarten, the elementary school, the junior high school, the senior high school, the normal school and the college. A model school is conducted in which expert teachers demonstrate the most effective way of presenting subjects. The great research laboratories of Teachers College which are perpetually investigating some new phase of public instruction are at the service of the Summer Session

students, and each summer the findings of the year before are available for classroom discussion. School supervisors add to their knowledge of administrative technique and school principals find courses in which the coördination of all activities of a great public institution are discussed by experts.

To the Summer Session also come superintendents of city school systems who have problems of financing education, of constructing buildings and maintaining them efficiently, of organizing the administrative staff, of making ample provision for the selection, training and encouragement of a teaching staff—superintendents who are, ultimately, responsible for every student in a great city. One of the features of the Summer Session of the present year is a two weeks' course in which during the entire ten days school superintendents who have already taken a master's degree in education sit down to work with some half dozen members of the staff of Teachers College who have spent their lives in actual school administration and in the investigation of the problems these educators bring in for discussion.

The outstanding feature of the Summer Session is not that persons with no experience are being taught in classrooms how to do things in the world outside, but that men and women who have had long experience in the world outside come back into classrooms and share their experiences and discuss common problems about which each has an opinion based upon experience. The Summer Session illustrates adult education in the most real sense of the term.

Middletown Comes to Broadway

Under the title "Middletown at Summer School" Professor Edgar W. Knight, of the University of North Carolina, wrote in *The Outlook and Independent* about the Summer Session. For many summers Professor Knight has taught history of education at Columbia. That he knows summer school students is evident from the following excerpts from his article.

The critics often charge that the Summer Session is not only sterilizing and discrediting the profession of teaching but also ballyhooing scholarship into backwardness. . . .

The critics may continue to sneer, but this cultural oasis in American life will continue to draw men and women from every Main Street in the land. Why? Because the Summer Session has not disappointed them. Every year they return to Middletown, about the middle of August, not only a bit better educated but more learned and wiser. Above all else, they return more civilized and cultivated.

For six weeks they have lived in the greatest American city. They have looked with their own eyes down its colorful Broadway and up at its dizzy skyscrapers. They have ridden on its underground and in its elevated trains and have seen where they are going down the Avenue. They have traversed and circumnavigated the whole wicked island by day and at night have seen the city in all its glory. They have supped at a real Chinese restaurant in Chinatown and looked upon the wonders in the "Colored Sector." They have witnessed the making of a modern newspaper and have heard the babel of jubilant and distressed voices in the Exchange and on the Curb. They have bowed their heads at the tombs of Ulysses S. Grant and of Theodore Roosevelt, have viewed the upper and the lower bays, and have glimpsed at the wide expanse of the ocean beyond. They have studied the animals at the Zoölogical Gardens and plant life at the Botanical. A day they have spent on the Hudson which included a visit to the United States Military Academy at West Point. They have seen the slums, settlement work, and the brass shops on the East Side, and they have visited a night court where dirty crooks are cautioned about their conduct in society. They have seen

the grotesque movie palaces, the mysteries of a broadcasting station, and witnessed Babe Ruth hit a homer, have studied art at the Metropolitan under the direction of specialists and, despite the admission charge, have visited and inspected the sleeping quarters and the public rooms of the great Britannic. Some of these excursions the Summer Session students make on their own initiative and effort but others are made under the chaste chaperonage of Columbia and the guidance of the kindest ciceroni that great institution can provide for the entertainment and cultivation of those who sit at her feet in summer. . . .

These summer school students are really a discriminating group of people. Back in Middletown their daily lives are routinized, standardized, systematized, perhaps a bit arid at times. So also was much of their formal training in high school, college, or normal school. But in Summer Session things are different. Here they are free to do as they will within reasonable institutional limits. The entrance requirements are not particularly exacting and the registration demands are few and simple and can be met promptly. They do not have to listen to an address by the president or submit to the laying on of hands by some dean in all his owlish solemnity. They are not diverted by extra-curricular sideshows and academic vaudeville, and they are free from most of the institution's traditions and safe from collegiate bacilli. They do not have to practice college yells, endure a fraternity rushing season, cultivate college spirit, or listen to alumni secretaries. So, the Summer Session students get rather promptly to work.

Scores of courses are open to them without let or hindrance if only they think they can profit by them. They are likely to select those that hold out promise of help, and not merely those that are scheduled at the more comfortable hours or require the registrants to ascend only one flight of stairs. They register for what they want or think they want and if, after they have begun it, they find out that the course is not to their liking, these men and women of genial personalities but determined wills, leave the professors, generally quite courteously, of course, but always cold. This behavior shows a bit of spine which the critics are reluctant to admit. . . .

. . . Few students anywhere else show such desire for excellence and respect for thoroughness or such capacity for sustained effort as those who light their tapers every year at this central flame. They seem to be healthily alive to the problems of their work back in Middletown and their maturity and professional experience unite with the patience of their instructors to bring their academic achievements up to a creditable level.

Here is an enterprise in American life, then, that touches the school at scores of vital points. Few are the communities into which its appeal and influence have not penetrated, for nowhere else is American education subjected to such close scrutiny as in the summer school. Let the critics and ill wishers adjourn it, if they will, and they will see how surely catastrophe would then catch up with American civilization.

Professor Knight Assails Degree Chasing

With the exception of the Men's Dinner no one event caused more talk about the College than the address given August 5 by Professor Edgar W. Knight in which he "spoke his mind" about the futility of Ph.D. degrees. An excellent summary of his talk appeared in the *New York Sun:*

American colleges and universities are suffering from "intellectual nearsightedness and mental cramps" because of the poor teaching done in them, and this low level of teaching is due to the fact that the instructors are selected because they hold Ph.D. degrees rather than because they are good teachers, Professor Edgar W. Knight of the University of North Carolina declared last night at a meet-

ing of the Phi Delta Kappa Fraternity, held at the Men's Faculty Club of Columbia University. Professor Knight is himself a Ph.D., having received his degree from Columbia.

Professor Knight told his audience that if there is any connection between teaching ability and a degree it is largely accidental.

"Fortunately, some accidents do occur, and here and there, as a result, you can find a Ph.D. who is also a good teacher," he said.

"It is little wonder that multitudes of the young men and women who crowd annually into our institutions of higher learning are soon driven away in confusion and disappointment," he continued. "However much these institutions may desire to place the blame for this mortality upon the victims of it, the fact remains that the major responsibility for the tragic condition rests upon the institutions themselves and the agencies that standardize them. These agencies form an interlocking directorate, headed by the graduate schools.

"American colleges and universities should employ good teachers. Bound by mediaeval tradition, they employ as instructors men and women who have gone through the stultifying and mechanical process of obtaining a Ph.D. degree.

"Our colleges and universities are sadly in need of more effective teachers and interpreters," Professor Knight said. "But these will not arise in American institutions of higher learning until there is a reform in the graduate schools, where college teachers are trained. These schools are still making the grave error of placing extreme emphasis upon what is called 'research.' This is a highly specialized and usually narrowing process which depends largely upon one's capacity to collect material with care and to arrange it with tidiness. It calls for no creative ability. It requires more ingenuity.

"Yet this research is essential in the preparation of a dissertation which sometimes is called a contribution to knowledge. A dissertation is needed before one can bear the title Ph.D. And the title Ph.D. is required if one is to teach in a college or university.

"Nearly all American colleges set up the Ph.D. as a requirement which every one who aspires to a college teaching position must meet. It follows, naturally, that the graduate schools producing college teachers must produce Ph.D.'s. Thus the manufacture of Ph.D.'s has become a major academic industry of the nation.

"We cannot expect good teaching in our colleges until the colleges begin to employ as instructors men and women who are interested in the fascinating pageant of life of which they and their students are a part.

"Present production of college teachers, with a degree based upon so-called research as its essential factor, will never encourage learning to emerge from the cloisters. It can be expected to continue to produce pedants who have erudition, but not cultivation, who have knowledge but not wisdom.

"Worse, when the Ph.D. virus gets into a young man's blood it is likely to ruin him for life. The mediaeval system of producing Ph.D.'s leads the hapless victim to believe that he is flying to the world with an important message. His professors, themselves infected with the virus, assure him that his message is important. Thus the young man falls into the fatal error of taking himself seriously. With his Ph.D. written in bold type after his name he enters upon the responsibility of college teaching with the thought that he is quite an important person.

"Now, as a matter of fact, the average young Ph.D. simply is not ripe enough to contribute to knowledge. He is not seasoned enough to have acquired wisdom. The Ph.D. process has, in most instances, robbed him of the opportunity of acquiring it.

"It is high time, for the sake of the multitudes of young men and women turning to our colleges for intellectual enlightenment and spiritual guidance, that the colleges recognize that good teaching is essential to education."

Our Schools All Wrong: They Vainly Try to Prepare Child for Adulthood

This was part of the heading of the article in the *New York Sun* which told of an address made during the Summer Session by Professor Raup. Here is what the *Sun* printed:

What's wrong with American education? Pretty nearly everything, in the opinion of Dr. Robert B. Raup, professor of philosophy of education at Teachers College, Columbia University, who last night spoke before the Tawse Club.

The fundamental defect of the public schools, according to Dr. Raup, is that they seek to prepare the child for adult life, and that, in his opinion, can't be done.

"Our public school system is based on the false belief that the education of children and of young people can provide a guarantee for a desirable quality of adult life and citizenship," Dr. Raup declared.

"No error could be more misleading than that of believing that we must prepare the child for adult years. The child has been separated from his own rightful life in order to learn about the problems that confront adults. When he becomes an adult he finds he has been robbed on all sides. What he 'learned' has largely gone, and he is not prepared for adult years. He has lost his childhood, and he is, as a result, losing a growing adulthood."

A recent statement by Dr. Edward L. Thorndike, professor of psychology at Columbia University, that the best time to learn any subject is as soon before its application as possible, was quoted by Dr. Raup to support his theory.

"The adult is discovering that if he is to go on learning according to his needs he must have help in some appropriate form when he is at grips with the problems that confront him," Dr. Raup declared. "The only education for adults that can eventually be counted adequate is that which is contemporaneous in effect. But to be contemporaneous in effect it must be largely so in process. The business of education is to reconstruct and get better control over the process of experience as it goes on. As such it is primarily and essentially in the present, and in the past only incidentally to the present."

Among the educative agencies for adult training Dr. Raup mentioned adult schools, newspapers, motion pictures, advertisements and public forums.

"This nation is spending millions of dollars each year on public education," Dr. Raup said. "This is not too much to spend for education. But we are deceiving ourselves by thinking that in spending this large amount of money we are getting genuine public education. Genuine public education is a matter of adults attacking the business of shaping and reshaping their present environment and becoming masters of themselves in the process. This function cannot be delegated to a group of persons who are hired to teach the children of these adults.

"We must not assume," he went on, "that an adolescent enthusiasm for a dramatically formed notion of the child's future citizenship is in any adequate sense a guarantee that he will go on in later years to enlarge his critical and construction function. We have been straining the school curriculum one way and another, in what to me seems a futile effort to make it provide in advance for good adults.

"So long as official education is to be kept within its present limits as to years it cannot justly be held responsible for adult citizenship. Mental conflict and educational cruelty are unavoidable results of holding the schools to account for yielding a product which is plainly outside their range of control and responsibility.

"Education that is real must go on where the issues of life are, whether they happen to be in childhood or later years. The adult cannot do the learning for the child and the child cannot be taught primarily for his own adulthood. Education thus conceived cannot be delegated. It can only be participated in."

Philadelphia Editor Sees Professor Raup Supported by Common Sense

Press dispatches on Professor Raup's Tawse address resulted in the *Philadelphia Evening Public Ledger* editorial which appears below. Correspondence between the writer of this editorial and Professor Raup revealed that the editorial writer is himself the father of eleven children and speaks, therefore, out of experience; and that Professor Raup considers this editorial a better means of communicating the essence of the Raup point of view and the original speech.

It needs no little courage to indict an entire educational system, and the argument must have soundness in it to escape the charge of impertinence. But it seems that Professor Robert B. Raup, of Teachers College, Columbia University, was supported by common sense when he recently attacked the popular notion that education is intended to "prepare the child for adult years." He considered the effort to be both "cruel and futile" and representative of the adult's desire to "preserve a high degree of respectability while he gets out from under responsibility."

Professor Raup has apparently caught a glimpse of the absurdity of treating the child as anything but a child. He doubts whether a child's consideration of adult problems does him any good whatever. They are artificial to him at the time, and when he reaches manhood he discovers that he still knows nothing about them. The point may be illustrated by many examples from the average curriculum. The ordinary civics course is supposed to train the child for intelligent citizenship, but nearly everybody knows that it has little to do with practical politics or the actual adjustments between the individual and the community which are the life of citizenship. In like manner the boy may waste time on history, economics, literature, and even such apparently practical studies as physics and chemistry. His childish thoughts concerning them are not the sort he will need for adult life, and there is no proof that adult thinking will develop inevitably from a training to think about such things in childhood.

The professor proposes a remedy which would upset all the accepted notions of popular education. He says simply that education is a perpetual process, equally as appropriate to adults as to children, and that it should always be directed to the present state and needs of its subjects. Boys should be taught to live rightly, intelligently and happily as boys; girls deserve the same consideration. Young men and maidens have plenty of problems, interests and ambitions that are natural to their age; they need to be schooled, disciplined and intellectually nourished according to their years and not according to somebody's notion about what will fit them for another stage in their experience.

It is a safe hypothesis that a wholesome childhood is the best preparation for wholesome and useful manhood. The child should come naturally into his powers and learn to use them as they are ready. It is strange to be told that this is a revolutionary theory in education. But it is a fact that we have somehow accepted the idea that education can be segregated into a few intensive years which are supposed to prepare for all the others. But Professor Raup points out that "education that is real must go on where the issues of life are, whether they happen to be in childhood or later years." His ideal, which is by no means fanciful, is that learning belongs to every stage of life and that each stage should be given the education which it needs for its own profit and full enjoyment.

Poor Students in High School Are Poor in College, Too

That only one student in eight who ranks in the lower half of his high school

class is able to complete an ordinary college course, was pointed out by Dean Max McConn, of Lehigh University, visiting lecturer in college administration at Teachers College during the Summer Session. The lecture in which the point was made was reported by the *New York Times*:

Observations over a period of years show that only one student in eight who ranks in the lower half of his high school class is able to complete an ordinary college course, Dean Max McConn said.

"Many state universities are circumventing legal statutes, requiring them to admit all graduates of accredited high schools by 'advising' some students not to attend college and shunting others off from cultural and scientific courses into studies in the manual arts," he said.

"The period before 1875 was the Golden Age in American education," Dean McConn said. "During that era economic conditions were such that many positions were available without a college education. The only people who attended college in those days were natural students who loved learning for its own sake.

"By 1875 the rise of modern industry made training necessary. Students were stimulated to go to college for ulterior motives. In order to stem the barbarian invasion, the better colleges set up systems of selection."

Dean McConn held that admission to college should be as highly selective as the circumstances of each particular institution will permit.

"The most effective method of college admissions is the system of selective certification," he said. "This means that a student can enter college on a certificate from high school if he is in the first half or first third, or any fraction that any particular institution may care to select, of his class. Thus a college can be as liberal or as exclusive as it desires. This plan has the additional advantages of requiring practically no administrative expense whatsoever."

All inflexible forms of selection were assailed by Dean McConn. He holds that the college admissions office should be de-mechanized and individualized.

Answer All the T-Bone Call

As usual the men's T-Bone Steak Dinner was the outstanding event of the Summer Session at Teachers College. Motion pictures were made of characteristic scenes. It is planned to show these at the Teachers College Banquet at the meeting of the Department of Superintendence of the N. E. A., at the Book-Cadillac Hotel ballroom, Detroit, in February. As a result of unusually effective advance publicity the event was of interest not only to students at Teachers College but also to newspapers in New York and elsewhere. An excellent article in the *New York World* resulted in the writing of a syndicated story by William R. Lipman in his "Big Time Review of Big Town Events." Under a New York date line this item appeared in various papers throughout the nation:

Imagine, if you can, a crowd of some 1,500 staid college professors, school superintendents and teachers racing madly up a hill, bounding into a dining room with wild hurrahs and then sitting down to a table groaning under the weight of several hundred large and juicy steaks.

Strange as it may seem, that is exactly what is going to happen up on University Heights when the annual T-bone steak dinner of Teachers College, Columbia University, is staged next Saturday afternoon. There is more to it than eating the choice morsels. Indeed yes! Learned professors will toil from early morning until late in the afternoon preparing the sumptuous meal. G. T. Stubbs, who ordinarily superintends schools in Durant, Okla., will head a platoon of cooks for the labor of the gigantic spread.

Two carloads of steers, a truckload of bread, pails and pails and washboilers of coffee—this sounds like mess-call in the

army—eight hundredweight of potatoes, not to mention pickles and other trimmings will be—it is hoped—demolished by the academic diners.

But the high-spot of the day will be the race—and what a race it will be. The "gang" will line up at the bottom of a hill in eight companies of 200 men. Somebody, of course, will hold a pistol or revolver and when he pulls the trigger the scramble will commence. Can you hear these dignified gentlemen, the decorum of the classroom forgotten, shouting "last one is a bum"?

Eight squads of their colleagues will scamper—perhaps—about to see which group can be served quickest. Then the fun will begin. Knives and forks will not be permitted. There will be one paper spoon apiece and one napkin. All other implements are taboo. Old man dyspepsia will not be welcome.

In the *New York Times* of August 10, the day after the dinner, the event was described:

Temporarily casting aside the more ascetic pursuits of Aristotle and Schopenhauer, eight professors of Teachers College forsook their academic robes in favor of the more practical garb of chefs' aprons and white caps, and established yesterday afternoon a new record for serving steaks in the gastronomic arena of Riverdale Campus of the Teachers College of Columbia University, at Van Cortlandt Park. They served to 200 of their empty-stomached colleagues T-bone steaks, rosy tomatoes, potatoes, dill pickles and fragrant mocha, in five minutes flat. This accomplishment betters last year's record by one and a half minutes.

The occasion was the seventeenth annual beefsteak dinner al fresco of 1,500 college professors, school superintendents and teachers who are attending the Summer Session of Teachers College. They convened to prepare, serve, and eat a meal of Gargantuan proportions. Eight squads of eight men each vied with one another to gain the speed palm of service and to hold the honor of their accomplishment until next August.

Ground rules for the contest were exacting. Ordinary knives and forks were barred, and one paper spoon and a tissue-paper napkin were the limit of individual equipment for each steak-eater. When the musical call to arms was sounded in the form of a mess-call on a bugle, eight ravenous files of about 200 educators each climbed the hill to as many lanes to obtain their nourishment, attired in chefs' aprons, white caps and a pink badge of eligibility for the encounter.

When the last man had passed the wicket, the honor of the fastest squad for service was conferred on that led by Dr. E. C. Daub, an honor student in the class of '25 in Wilmington College, Wilmington, Ohio, while a brass band concealed in near-by bushes played "Everybody's Doin' It." The squad included four teachers from Ohio and one each from Vermont, Georgia, Alabama and New York. About twenty foreign countries were represented in the 1,500 pedagogues who frolicked on the campus.

G. T. Stubbs was in charge of the cooks. His regular vocation is Superintendent of Schools at Durant, Okla. Dr. R. T. Guyer, principal of the Muskegon, Mich., high school, was general factotum supervising the repast. Professors Engelhardt and Evenden of Teachers College assisted in the staff work of food dispensing, and W. C. Fowler, a graduate student of the College, directed the issue of the coffee ration.

No casualties were reported.

Camp Urged as Part of School

Professor Goodwin B. Watson was the only speaker to give to the Men's Dinner publicity committee an advance copy of his address. In consequence his was the only address reported, though other excellent ones were made by Professor Counts, Dean Russell, Principal Eli Foster of Tulsa, and Superintendent Oberholzer of Houston. Here is the

New York Times' report of Professor Watson's talk:

Introduction of camps into the public school system was suggested by Dr. Goodwin Watson, professor of educational psychology at Columbia University, speaking at the annual dinner of Summer Session students. The camp enables a pupil to put into practice habits of living which can only be discussed in the classroom, he said.

"We should include in public education several months each year, fall, winter and spring, as well as summer, the free creative activities of an informal and democratically organized camp," Dr. Watson declared.

"There seems to be as much good reason for a board of education to acquire property for, and to run, a good public camp for boys and girls, as there is for running a city school building.

"Many youngsters now spend more waking hours in camp than they do in school. There is good evidence that health gains are made during a summer in camp that are not attained by a year of schooling. There is also evidence that happiness depends more upon the spirit of companionship and loyalty which is developed by camp life, than upon all the literature, art and music of the formal school. Is not the worthy use of leisure an objective of education?

"I am especially concerned with the character and citizenship training which results. There are few schools in which pupils may discover the need for, and create, their own rules of living together as they can in camps. In the formal routine of schooling there is little opportunity for either the strong or the weak characters to differentiate themselves. There is a vicious tendency to substitute classroom talk about character for what, in camp life, becomes the practice of wholesome ways of living."

Dr. Watson predicted that camps operating as units of public schools will soon be opened.

"I think many far-sighted boards of education will soon be acquiring camp sites on lakes, in mountains and other beautiful spots," he said. "Some day a city without its camps may be looked upon as as negligent as a city without public schools."

Radio Described as "The Fourth R"

A Teachers College survey made by Miss Margaret Harrison was the basis of a *New York Evening World* story which was read with interest by Summer Session students:

Researches of education by radio in rural schools by the rural education department of Teachers College indicate successful conduct of schooling over the air to students receiving instructions from unseen teachers through radio programs specially devised for classroom use. Miss Margaret Harrison, director of radio studies in Teachers College, has been checking up the possibilities of radio in small country schools. Tests of aerial programs as substitutes for textbooks and personal instruction in the fields of current events, music, arithmetic, geography and English have been made in experiments conducted in rural districts in Connecticut, New Jersey and New York.

"One teacher has been building seventh grade arithmetic problems from price quotations on crops given in one of the farm hours. Another teacher uses aviation weather forecasts, broadcast every day for aviation fields and planes, as a stimulus to imaginary trips with her fourth grade pupils.

"Many teachers," says Miss Harrison, "have found the radio a means of developing individual contributions to group interests. Sometimes only one grade listens to a program which refers to its subject matter. In a school in Connecticut the pupils organized several small clubs—a health club, a reading club and a speech club. These meet once a week, or perhaps once every two weeks, using the radio as part of their programs. For example, there is much radio material on health, yet not much of it is designed for school use and

would scarcely be worth while for an entire school to listen to. The children in the health club check at the beginning of the week the talks they may contribute to their meeting and assign them to various members. These members then report at the meeting of the club.

"As a source of educational materials, to be used selectively, radio suggests five outstanding advantages. It offers material which the average country school could not get through any other source. It sets standards of speech, pronunciation, dramatization and selection of material—standards which, on the whole, are better than those the one-room schools already have. Radio serves as a means of carrying over interests from the local environment to national and international interest. It increases the variety and intensity of interests within the group and between groups and gives the child other viewpoints than those of the teacher.

"It is probable that within a few years four or five national and numerous local school programs will be available to every school. The problems then will be the problems we are trying to solve now as a means of laying a firm foundation for the future schools of the air."

Educated Women Show Fewest Cases of Marital Trouble

When Dr. Paul Popenoe addressed himself to the topic of happiness in marriage there were resultant news stories in many papers. Here is the one that appeared in the *New York Sun*:

Education and a happy marriage go hand in hand, according to Dr. Paul Popenoe, lecturer in practical science in the Summer Session of Columbia University, who found that in 1,600 marriages among friends and relatives of Teachers College students, 75 per cent of the educated married women declared their marriages unequivocally happy. The remainder were classed between doubtful and unhappy, he found.

Thus Dr. Popenoe concludes that though the number of broken homes is becoming unduly large, the educated portion of the population is supplying far fewer than its quota of unhappy life partnerships.

"Questionnaires answered anonymously by 1,000 educated married women disclosed that 87 per cent of these considered their marriages unequivocally to be happy," said Dr. Popenoe. "The surplus of unhappy marriages must therefore be sought elsewhere than in the college educated part of the American population and analysis shows that it is contributed largely from the following seven groups:

"The mentally diseased (who make up at least 10 per cent of the total population); the very poor; the very rich; those who cultivate 'temperament'; those who are just naturally delinquent, and show it by inability to live up to other requirements of society as well as in marriage; couples who differ widely in race, culture, or religion; those who because of ignorance of the essentials of marriage are unable to make a go of it despite good intentions."

Dr. Popenoe lists as his antidotes for unhappy married life a creation of right attitudes in children, a sound basis for the choice of a mate, wider opportunities for young educated people to make social contacts with those of the opposite sex, better education of young people in personal relations, better preparation through education, legal safeguards surrounding marriage and the establishment of public clinics for the dispensation of advice and treatment for marriage and family problems.

"The family, being a pre-human and indispensable biological adaptation for evolution, there is no need to fear that it will become extinct," declared Dr. Popenoe. "But the question, what kind of people will constitute the families of the future, is the most serious that now faces any civilized nation."

Low Salaries Seen as Cause of Surplus of Teachers

With the Bureau of Educational Service talking about surplus of teachers and

with some 4,000 unemployed teachers in New York City alone, there is interest in the views of John K. Norton, research director of the National Education Association and visiting professor at Teachers College. What follows is a signed article which Dr. Norton wrote during the Summer Session for the *New York Times*:

Since 1920, when there was a serious shortage of teachers, enrollments of teacher-training institutions have increased considerably more rapidly than the number of school positions in the United States. Last year there were approximately 300,000 students preparing for teaching, as compared with one-third that number ten years ago. Meanwhile, the average length of teaching service, particularly in the cities, has substantially increased. In some communities, particularly those paying the higher salaries, there is a larger number of applicants than there are vacant positions.

But these facts do not justify the conclusion that there is a general oversupply of teachers. There are nearly 1,000,000 school positions in the United States. Even if the average length of teaching service were ten years—and it is undoubtedly less than this—it would require 100,000 new teachers each year for replacements alone. To produce this number of graduates yearly, assuming a three-year course, teacher-training institutions would have to enroll something over 300,000 students.

Also, for every community which has an oversupply of applicants for teaching service there is another which cannot obtain teachers who are qualified for their work. These communities, because of the low salaries they pay, are able to obtain teachers only through special examinations, which are made sufficiently easy that people with practically no professional preparation may pass.

If one were to guess as to what the general situation is in the country at present—and no one can do more than guess, considering the present lack of reliable facts—it would appear that there are more teachers with two or more years of professional preparation beyond high school than there are positions paying salaries which such teachers will accept.

On the other hand, there are literally hundreds of thousands of teaching positions which pay such meager salaries that the only teachers who can be induced to take them are those with little training and fitness for the work. In other words, if at the beginning of the 1930-31 term it became the general policy to employ no new teachers except those who had completed a professional course, and to pay salaries which such people would accept, there would probably be an immediate shortage of teachers.

The present situation as it affects the supply of teachers can be made plain by the following supposition. Let us suppose that it were the practice in the United States for a community, whenever it did not desire to pay the current physicians' fees, to give an easy examination to persons who were willing to practice at a reduced wage, and thereby to make it legal for them to write M.D. after their names. Competent physicians would leave such a community. Untrained doctors would take their places. The result in the country as a whole would be an oversupply of doctors. Yet this is almost exactly the way in which the nation's teaching personnel is now being recruited.

In the light of these conditions, what action does public policy dictate for a community? Some communities are advocating the reduction of teachers' salaries. Obviously, this is not the answer in places already paying such low salaries that they cannot obtain properly prepared teachers. But how about the larger cities where salaries are higher? There are people who are willing to teach for lower salaries. Why should we disregard the law of supply and demand?

We should not disregard the law of supply and demand. But what is the demand? Are the best of those who are now willing to teach in the large cities more competent than their calling

demands? Or do we need even more capable teachers than present salaries obtain? If the latter is the case, then it is folly to think of reduction.

Teachers' salaries in the large cities, in my opinion, should not only be maintained at present levels, but in some instances should be increased so that teaching may compete on an even basis with other professions.

Accompanying the establishment of this adequate economic foundation for teaching, there needs to be developed an intelligent occupational plan for this important public service. Before such a plan can be made, it will be necessary regularly to assemble the facts as to the teaching needs of each state. We shall have to know not only the gross number of school vacancies which occur each year but also the character of these vacancies. How many elementary school teachers are needed annually? How many high school teachers? How many people will be needed to teach science and mathematics, and each of the other subject groups? How many new supervisory and executive officers are needed by the schools each year?

Several states are already laying the foundation for a program of occupational planning for teaching similar to that described above. In addition, two nation-wide agencies are focusing attention on the movement. To give it impetus is the principal purpose of the study of teacher supply and demand now being conducted by the National Education Association. The Federal investigation of teacher training which has just been launched by the United States Office of Education will also consider this problem.

Dr. Evenden Helps Direct Survey of Teacher Training

Teachers and administrators in schools throughout the nation will await with interest findings of a survey announced in the press in August. This article is from the *New York Evening World's* school page:

Approximately $50,000 will be expended by the federal government during the present year in studying various phases of teacher training in the United States. A total of $200,000 has been provided by Congress for making this survey, which will be conducted by Dr. Edward S. Evenden of Columbia University as associate director of the teacher training survey, working under Dr. William J. Cooper, U. S. Commissioner of Education. Dr. Ben Frazier of the Office of Education will officiate as administrative assistant.

The purpose of the survey, as announced by Secretary of Interior Wilbur, is "to make a study of the qualifications of teachers in the public schools, the supply of available teachers, the facilities available and needed for teacher training, including courses of study and methods of teaching."

Secretary Wilbur has also announced the appointment of a group of specialists to constitute a board of consultants to act as advisers in this undertaking.

They are John A. H. Keith, superintendent of public instruction of Pennsylvania, as a representative of the National Council of State Superintendents and Commissioners of Education, one of the bodies active in promoting this study, and a member of the original survey committee of 1915; W. P. Morgan, president of the State Teachers College, Macomb, Ill., past president of the North Central Association of Colleges and Secondary Schools; D. B. Waldo, president of the Western State Teachers College, Kalamazoo, Mich., active in the American Association of Teachers Colleges for many years; George W. Frasier, president of the Colorado State Teachers College, Greeley, the present president of the American Association of Teachers Colleges; William Webb Kemp, dean of the School of Education, University of California, representative of the Association of Deans of Education in State Universities and Land-Grant Colleges, also a student on both Coasts (Stanford and Columbia Universities); M. E. Haggerty, dean of the School of Education in the University of Minnesota, one of the most active men in formulating

the movements which brought about this survey, also chairman of the committee on research of the faculty of the University of Minnesota, which has perhaps done more in the investigation of teaching problems on college level than any other institution in the country.

Also William C. Bagley, in charge of the division of teacher preparation, Columbia University, an exponent of "professionalized subject matter"; probably the most influential man in teacher training circles in the country; William S. Gray, dean of the School of Education, University of Chicago, one of the keenest men now engaged in this entire problem of the preparation of teachers; Henry W. Holmes, dean of the Graduate School, Harvard University, an exponent of the two years' course for the master's degree in education for teachers, whose product will likely fill places in high-grade private academies and junior colleges; Shelton Phelps, George Peabody College for Teachers, leading institution in the South for preparing teachers; and W. W. Charters, Ohio State University, the man who conducted the Commonwealth Fund study in analyzing the job of the teachers.

COLLEGE & ALUMNI NOTES

COLLEGE NOTES

EDUCATIONAL ADMINISTRATION

The portrait of Dr. George D. Strayer, painted by Mrs. Ellen Emmet Rand, has been placed in the hall of the first floor of Teachers College. It hangs between the kindergarten and the main entrance of Teachers College. The portrait was donated to the College through gifts from former students of Dr. Strayer, his faculty colleagues, and members of the Board of Trustees.

Professor Strayer attended Schoolmen's Week, held in celebration of the Twenty-fifth Anniversary of the Founding of the College of Education of the University of Minnesota. He addressed the entire group on the subject "Progress in City School Administration During the Past Twenty-five Years," and also spoke briefly at a Schoolmen's Dinner held in connection with the celebration.

Dr. Strayer and Dr. Engelhardt were the advisers for the development of a school building program at Richmond, Ind. The report of this study, as prepared by Superintendent William G. Bate and his staff, has been published by the Board of Education of Richmond.

"Campus Standards for Country Day and Boarding Schools," by George D. Strayer, N. L. Engelhardt, and Thomas C. Burton, has been published by the Bureau of Publications of Teachers College. This is a fifty-page pamphlet which, in addition to standards, includes well-chosen photographs of typical country day school scenes.

Dr. Engelhardt participated in the Second State Educational Conference held at the Summer School of the University of Alabama in June. The conferences were attended by school administrators and supervisors throughout the state.

Former students in the department of Educational Administration will be interested to know that the following men completed their work for the doctorate during the summer of 1930. Their final orals were held during May, July, and August:

Brunstetter, Max R.—Business Management in School Systems of Different Sizes.

Clark, Zenas R.—The Recognition of Merit in Superintendents' Reports to the Public.

Eginton, Daniel P.—Comparison between the Control of Education in England and New Jersey as a State in the United States.

Essex, Don L.—Bonding vs. Pay-as-

You-Go in the Financing of School Buildings.

Goldberger, Anthony M.—Variability in Continuation School Populations.

Grossnickle, Foster E.—Capital Outlay in Relation to a State's Minimum Program.

Hamon, Ray L.—Utilization of College Instruction Rooms.

Holmstedt, Raleigh W.—A Study of the Effects of the New Jersey Teacher Tenure Law.

Ketler, Frank C.—Reserve Funds in Public School Finance.

Matzen, John H.—State Constitutional Provisions for Education.

Proctor, Arthur M.—Safeguarding the School Board's Purchase of Architects' Working Drawings.

Sackett, Everett B.—The Administration of the International School Correspondence of the Junior Red Cross.

Smith, James H.—Legal Limitations on Bonds and Taxation for Public School Buildings.

The department of Educational Administration held a series of noon luncheons during the Summer Session. The entire third floor of the Men's Faculty Club was filled for each one of the five luncheons with representatives of the various administration classes. Director Maurice A. Bigelow of the School of Practical Arts, Professor George S. Counts, and Dean William F. Russell were among the speakers at these luncheons. Mr. Charles Strickland led the music and Mr. A. J. Hall demonstrated his skill at the piano during the course of these luncheons.

Professor W. S. Elsbree is spending the year abroad. He may be reached in care of American Express Co., London, England, until December, 1930.

Dr. R. B. Taylor, formerly director of secondary education, Norristown, Pa., has been appointed assistant superintendent of schools in Norristown. He began his new duties on July 1. Dr. Taylor received his doctor's degree in educational administration several years ago.

Dr. Guy L. Hilleboe, who has been research associate in Educational Administration, has accepted a position as professor of education in the New York State Teachers College at Albany. He will be director of child development and parental education in the training school, and will conduct investigations in child development on the pre-adolescent and adolescent levels.

The Missouri State Survey Commission has issued seven publications as a result of its work. A general volume, entitled "The Report of the State Survey Commission to Honorable Henry S. Caulfield, Governor of Missouri," provides a summary of all the other reports. The reports made by the Division of Field Studies include a "Preliminary Report of the Survey of the Public Schools" by Drs. Strayer, Engelhardt, Alexander, Mort, Elsbree, and Tidwell; a "Preliminary Report on Publicly Supported Higher Education of the State of Missouri" by Drs. Strayer, Engelhardt, President L. D. Coffman and Drs. Evenden, Cottrell, O'Rear and Florence B. Stratemeyer of Teachers College, and Dr. Harry P. Hammond of Brooklyn Polytechnic Institute. These reports may be secured from the State Survey Commission, Jefferson City, Mo.

The Eightieth Report of State Superintendent Charles A. Lee also contains the survey sections on both the public schools and the publicly supported higher institutions. Superintendent Lee's report may be secured by addressing him at Jefferson City, Mo.

Mr. H. L. Ronnei, of the first major course for superintendents, has been appointed supervising principal at Valhalla, N. Y. Mr. Ronnei began his new work in September, 1930.

Mr. F. F. Beach, of the second major course for superintendents, has been appointed director of research in the public schools of Oyster Bay, N. Y. He will be associated with Superintendent L. J. Deming in this work.

A Teachers College Fellowship has been awarded to Mr. William Rockhold Odell, a member of the first major course for superintendents. Mr. Odell comes from Monrovia, Cal., and has his B.S. and A.B. degrees from the University of Southern California.

Miss Julia Letheld Hahn, also a member of the first major group, has been awarded the Grace Dodge Fellowship. Miss Hahn secured a B.S. from Teachers College in 1923.

Mr. Frank C. Ketler, member of the second major course and seminar this past year, has been appointed superintendent of schools at Berlin, N. H. He succeeds C. M. Bair, who has been elected to the superintendency at Lakewood, N. J. Mr. Ketler gave courses in administration during the summer in the University of Arkansas, Fayetteville, Ark.

Mr. A. M. Proctor, who wrote his dissertation in the field of educational administration during his leave of absence from Duke University, has returned to that university, where he is associate director of Summer School, director of Placement Bureau, and professor of education.

Mr. Calvin Dengler has been elected supervising principal at Palmyra, N. J. He assumed responsibilities in this new position on July 1, 1930. Mr. Dengler has been a member of the second major course for superintendents and has participated in the Holyoke, Mass., and Panama Canal Zone Surveys.

Mr. Charles F. Reid and Mr. William R. Odell, graduate students in educational administration, were engaged during the past summer as research assistants for the National Advisory Commission on Education.

Mr. William A. Kincaid has been elected superintendent of public schools at Montpelier, Vt. He was a member of the second major course for superintendents during 1929-1930.

Mr. V. C. Nicklas, a member of the second major course for superintendents during the past year, has been appointed superintendent of schools at Millville, N. J. While a member of this course, Mr. Nicklas was a participant in the surveys of Holyoke, Mass., and the Panama Canal Zone schools.

Mr. Gordon Boardman, a member of the first major course for superintendents during the year 1929-1930, has been appointed principal of Memorial High School, Millville, N. J.

Mr. Francis C. Buros, who was assistant to Dr. Engelhardt during the year 1929-1930, has been appointed research director in the White Plains, N. Y., school system.

On September 1 Mr. R. G. Campbell began giving courses in public school administration in the School of Education at Oklahoma A. & M. College, Stillwater, Okla.

Former State Superintendent R. E. Tidwell of Alabama has become director of the Extension Division of the University of Alabama. He began this work on September 1.

Mr. E. S. Lawler has been appointed research associate in the department of Educational Administration, Teachers College.

Mr. C. F. McElhinney has begun his new work as supervisor of education in the Troy Teachers College, Troy, Ala.

Mr. Henry Alves has returned to Austin as research director in the Department of Education of the State of Texas.

Mr. R. W. Bell has been appointed superintendent of schools at Pleasantville, N. Y.

Mr. Max R. Brunstetter has accepted a position as curriculum research associate with the Electrical Research Products, Inc., New York City.

Mr. L. H. Dix remains during the year 1930-1931 as research associate in the Lincoln School of Teachers College.

Dr. H. S. Curtis has been teaching during the past summer in Duke University.

Messrs. Wm. B. Featherstone, Grant Rahn, and S. J. Smith were assistants in the department of Educational Administration during the past summer. Mr. Rahn has accepted a position as principal of the Shorewood Junior-Senior High School, Milwaukee, Wis. Mr. S. J. Smith has become assistant superintendent of schools at New Rochelle, N. Y., and Mr. Featherstone will remain as assistant in the department of Educational Administration during the year 1930-1931.

Mr. Charles K. Morse has returned to the Nebraska School of Agriculture, Curtis, Neb., where he is superintendent.

Mr. Julius E. Scott has become principal of the Junior High School in Peekskill, N. Y. This school is being organized this year for the first time. His work began the first of September.

Mr. Harley Z. Wooden has accepted a position with Superintendent Coburn of Battle Creek, Mich. He has been placed in charge of the new Kellogg School.

Mr. L. P. Young will work under the direction of Mr. Wm. R. Peck, superintendent of schools at Holyoke, Mass. Mr. Young has the title of Director of Research.

During the Summer Session Dr. N. L. Engelhardt conducted a number of excursions of various classes to the schools of Westchester County. These

excursions were taken with the primary purpose of studying school plants. Among the buildings visited were those at White Plains, Bronxville, Ossining, Pleasantville, Rye, and Yonkers, N. Y.

The Report of the Survey of the Schools of Holyoke, Mass., has been published. It has been printed in Holyoke, Mass. and may be secured upon application to Superintendent Wm. R. Peck.

During the past summer the department of Educational Administration offered for the first time a short course for superintendents of schools. This course was open to men and women in administration who had already completed the requirements for the master's degree. The course was taught by Drs. Strayer, Engelhardt, and Mort. The work was carried on with the purpose of bringing to the class the new developments in administration during the period which had elapsed since they had finished their master's work. Seventy superintendents from twenty-two states extending from Maine to California were represented in this group.

Publicity for the Men's Dinner was in charge of the committee in the educational publicity class in school administration taught by Clyde R. Miller, director of the Bureau of Educational Service. Headed by George A. Boyce, of Western Reserve Academy, Hudson, Ohio, this committee worked so effectively that the usual number of tickets were sold and each sale was "painless." A report turned in by the committee will serve as the basis for next year's T-Bone Steak Dinner publicity.

Helping R. T. Guyer, principal of high school at Muskegon, Mich., general chairman of the arrangements committee, were G. E. Stubbs, superintendent of schools, Durant, Okla.; T. F. Tyler, superintendent of schools, Benedict, Okla.; George A. Boyce, Western Reserve Academy, Hudson, Ohio; O. Carmichael, supervising principal, Tampa, Fla.; L. O. Todd, superintendent of schools, Philadelphia, Miss.; M. W. Carothers, principal, Tampa, Fla.; C. B. Manley, principal, Springfield, Mo.; W. C. White, P. L. Heilman; E. Siensinger; P. L. Davis.

SECONDARY EDUCATION

Professor Grayson N. Kefauver served as member of the committee on Mental Hygiene in Schools, a subcommittee of the Committee on the School Child, of the White House Conference on Child Health and Protection. In this connection, he collaborated with Dr. John M. Brewer of Harvard University in the preparation of a report on The Guidance Program and Its Relation to Mental Hygiene.

Professor Kefauver has introduced an innovation in the training in administration for the major course. The class is divided in two groups for laboratory work in high schools. One group worked in the Isaac E. Young Junior High School at New Rochelle and the other in the six-year high school at Hastings-on-Hudson. The practical work will follow the more usual class consideration of administrative problems. In addition to the work in the schools on these problems, each group has made an intensive study of the administrative procedures used in the school. Mr. E. W.

Jacobsen, instructor in secondary education, assisted in directing the work of one group. Principals Thompson of New Rochelle and Myers of Hastings-on-Hudson also gave valuable assistance.

Professor Kefauver has accepted the position of specialist in school organization on the staff of the National Survey of Secondary Education in which he will direct certain studies on the organization of secondary education. He will carry this responsibility in addition to his regular work at Teachers College.

The total registration in the department of secondary education for the Summer Session of 1930 was 1,419. Professor Briggs's major course enrolled 363.

During the Summer Session the men students in secondary education had three luncheons at the Men's Faculty Club. The speakers were Dean Emeritus James E. Russell, Professor George S. Counts, and Visiting Professor W. H. Perkins, Director of Education, Warwickshire, England.

During the Summer Session Professor Thomas H. Briggs spoke to the faculty of the department of Music on "As Music Education Looks to an Outsider" and to Kappa Delta Phi on "Interests as Liberal Education."

On September 27 Professor and Mrs. Elbert K. Fretwell entertained the staff of the department of Secondary Education at dinner at their country home near Westport, Conn.

Dr. Fretwell has been appointed chairman of the Camping Section of the White House Conference.

The Thursday afternoon informal teas for the students in secondary education have been resumed. The first was held on September 25.

The Enriched Teaching of Latin in the High School has appeared as Volume 6 in the Enriched Teaching Series which is being edited by Professor Maxie N. Woodring. The collaborator of this volume is Miss Frances E. Sabin, Director of the Service Bureau for Classical Teachers.

Professor Woodring has been appointed a member of the Committee on Youth Outside of Home and School dealing with reading as a part of the White House Conference on Child Health and Protection.

Dr. P. M. Symonds is planning to do experimental work in the counseling of high school students in the high school of Elizabeth, N. J. The work will be carried on in connection with an extramural course in Adolescent Adjustments given in Elizabeth. The work will stress particularly methods of securing coöperation of teachers and the home in attempting to understand and care for students with personality and behavior difficulties.

Mr. George H. Armacost is the new assistant in the Department of Secondary Education. Mr. Armacost's graduate training has been at Johns Hopkins University and at Teachers College. He was formerly a teacher of science in the Kane High School, Kane, Pa.

Mr. Harold Hand, formerly principal of the high school at Thief River Falls, Minn., has accepted the position of assistant to Professor Kefauver. Mr.

Hand recently completed his Master's degree at the University of Minnesota.

BUREAU OF EDUCATIONAL SERVICE

Clyde R. Miller, director of the Bureau of Educational Service, lectured at Harvard University before the school administration group there during summer school.

Mr. Miller has been appointed a member of the advisory board of the Progressive Education Association.

Miss Marie M. Duggan, M.A., Teachers College, has been appointed assistant director of the Bureau of Educational Service. Miss Duggan has been employed in the Bureau since July, 1929. Prior to that time she was assistant professor, College of Practical Arts and Letters, Boston University.

The Bureau has had printed a statement for employers and candidates and writers of letters of reference. Copies are given to all persons registering with the Bureau. Employers and others desiring a brief statement of the policies and practice of the Bureau will discover it in this booklet which will be sent free upon request.

The Bureau reports an increase of 11 per cent in the number of full-time and summer school appointments made through it by employers during the year ending June 30, 1930.

Installation of visible files for the use of employers will continue in the Bureau through the present year. These files make it possible for employers to see at a glance the record of training and achievement of registrants on the active list. The forms used in these files represent a unique development in the service of this and similar bureaus.

Recent changes in positions of Teachers College Alumni are reported by the Bureau of Educational Service:

Adams, Estelle, from Georgia State College for Women, Milledgeville, Ga., to Kindergarten-Primary work, Baylor College for Women, Belton, Tex.

Adams, Laurence B., from teacher of industrial arts, Lincoln School, Teachers College, Columbia University, to director of industrial arts, Public Schools, Glencoe, Ill.

Alexander, Ralph B., from principal, Hurleyville High School, Hurleyville, N. Y., to principal, Junior High School, Hanover, N. H.

Algire, Glenn H., from grade school teacher, Coppermine School, Frederick County, Md., to teacher of chemistry and physics, Northport High School, Northport, N. Y.

Allard, Maurine, from supervisor of grade school, Duluth, Minn., to assistant instructor in music, State Normal School, Jersey City, N. J.

Alleman, Irene, from laboratory assistant and nutrition research, Columbia University, New York City, to instructor in home economics, Wittenberg College, Springfield, Ohio.

Allen, Margaret F., from nursery school owner and director, Binghamton, N. Y., to director of Lower School, Ethical Culture School, Fieldston, N. Y.

Andrews, Marie, from student counselor, North Carolina College for Women, Greensboro, N. C., to director of residence, New Jersey College for Women, New Brunswick, N. J.

Anderson, Louie, from director of swimming, Horace Mann School, to assistant supervisor of physical education, Albany Public Schools, Albany, N. Y.

Andrews, Thelma, from Flint Junior College, Flint., Mich., to head of French department at St. Mary College, Leavenworth, Kan.

Attebery, Clara, from instructor in home economics, Western Kentucky State Teachers College, Bowling Green, Ky., to head of home economics department, Blackburn University, Carlinville, Ill.

Aubeck, Ruth M., from instructor in physical education, University of Pittsburgh, Pittsburgh, Pa., to instructor in dancing, George Washington University, Washington, D. C.

Bair, Carl Morris, from superintendent of schools, Berlin, N. H., to superintendent of schools, Lakewood, N. J.

Baker, Helen, from teacher of home economics, High School, Delaware, Ohio, to teacher of home economics, High School, Elizabeth, N. J.

Baker, Paul G., from teacher of history, Union High School, Union, N. J., to teacher of history, Junior High School, Elizabeth, N. J.

Bales, Rachel, from teacher of home economics, High School, Lake City, Kan., to teacher of home economics, Normal School, Asheville, N. C.

Ballard, Mary E., from assistant supervisor in house and food department, Johnson Hall, Columbia University, to director of cafeteria, Western Electric Company, Kearny, N. J.

Bancroft, Lydia, from teacher of fine and industrial arts, Teachers College, Cullowhee, N. C., to assistant professor of art, Georgia State College for Women, Milledgeville, Ga.

Barker, Mrs. Beatrice, from Harris Tutoring School, Chicago, Ill., to teacher of French, Pelham Public Schools, Pelham, N. Y.

Barnes, Homer Francis, from head of English department and assistant in administration, Western Reserve Academy, Hudson, Ohio, to principal, Kamehameha Boys School, Honolulu, Oahu, Hawaiian Islands.

Barnes, John R., elected principal, Grosse Point High School, Grosse Point, Mich.

Bartlett, Marjorie, from instructor in physical education, Nassau Industrial School, Lawrence, L. I., to assistant in physical education department, Connecticut Agricultural College, Storrs, Conn.

Bassett, Mildred E., from instructor, Rhode Island College of Education, Providence, R. I., to instructor in social studies, New Haven Normal School, New Haven, Conn.

Bauer, Arthur W., from instructor in industrial arts, Barberton High School, Barberton, Ohio, to instructor in mechanical drawing Greensburg High School, Greensburg, Pa.

Baylis, Mildred K., from Wilmot Smith School, Patchogue, L. I., to first grade teacher at the Lawrence School, Hewlett, L. I.

Baylis, W. Bradford, appointed research fellow, Leopold Schepp Foundation, New York City.

Bayne, Dorothy W., from teacher of physical education, Hope Farm, Verbank, N. Y., to director of physical education, Prospect Hill Country Day School, Newark, N. J.

Bazinet, Michael L., from Glens Falls High School, Glens Falls, N. Y., to teacher of French and history at Stanton Preparatory Academy, Cornwall, N. Y.

Beach, Fred F., appointed director of research, Public Schools, Oyster Bay, N. Y.

Beaujean, Florence E., from Lincoln School, Teachers College, New York City, to kindergarten teacher at St Agnes School, New York City.

Beech, Helen J., from teacher of handcraft, Eugene Street School, Los Angeles, Calif., to teacher of home economics, Junior High School, Pasadena, Calif.

Beery, Leon F., from supervisor of music, City Schools, New Brunswick, N. J., to supervisor of music, City Schools, Richmond, Ind.

Beery, Viola, from teacher of home economics, High School, Alma, Mich., to manager of dormitory and teacher of home economics, State Teachers College, Winona, Minn.

Bell, Gladys R., from Nisbuane School, Montclair, N. J., to first grade teacher at Prospect Hill School, Pelham, N. Y.

Bell, R. W., appointed supervising principal, Public Schools, Pleasantville, N. Y.

Belshaw, Roland E., from head of the physical education department, Lakeview High School, Lakeview, Ore., to assistant professor of physical education, University of Washington, Seattle, Wash.

Bennett, Annette, from professor of special education, Ohio University, Athens, Ohio, to assistant in special education, Connecticut State Board of Education, Hartford, Conn.

Bennett, Bertha, from assistant professor of physical education, Washington University, St. Louis, Mo., to instructor in physical and health education, State Normal School, New Paltz, N. Y.

Bennett, Elspeth, from director of nutrition, State Board of Health, Louisville, Ky., to chairman of health education, Kansas City Teachers College, Kansas City, Mo.

Bennett, Vada, from Cannon Nursery School, New Haven, Conn., to nursery critic at Russell Sage College, Troy, N. Y.

Berry, Lorennie, from teacher of home economics, High School, Wynnewood, Okla., to instructor in clothing, Connors State Agricultural College, Warner, Okla.

Berry, Olive, from teacher of home economics, Staten Island Academy, New Brighton, N. Y., to teacher of home economics, Public Schools, Long Beach, N. Y.

Best, Miriam Lane, appointed supervisor, Board of Education, Albany, N. Y.

Billings, Katharine H., appointed teacher of history, The Helsted School, Yonkers, N. Y.

Bittner, Margaret A., appointed supervisor and counselor, Eastchester High School, Tuckahoe, N. Y.

Black, Melvin H., from superintendent and high school teacher, Harrison Township Schools, Kirkersville, Ohio, to teacher of English, Western Reserve Academy, Hudson, Ohio.

Boehmer, Florence, from acting dean of women, Heidelberg College, Tiffin, Ohio, to Dean of Women, State Teachers College, Harrisonburg, Va.

Bomar, Willie M., from director of practice house and instructor in home economics, East Carolina Teachers College, Greenville, N. C., to acting head of home economics department, State Teachers College, Pittsburg, Kan.

Bookwalter, Karl W., from instructor in physical education, Public Schools, Denver, Colo., to instructor and critic teacher of physical education, Indiana University, Bloomington, Ind.

Borrmann, Elizabeth J., from student at Teachers College, to teacher of fine arts in the Grand Rapids Public Schools, Grand Rapids, Mich.

Bourquin, Anne, from research assistant in food chemistry, Columbia University, to instructor in nutrition, Syracuse University, Syracuse, N. Y.

Bowden, Muriel, from headmistress, The Brearley School, New York City, to headmistress, St. Agatha's School, New York City.

Bowe, Agnes B., from teacher of English, High School, Belzoni, Miss., to head of English department, University High School, Oxford, Miss.

Bowman, Leona, from instructor in home economics, correspondence study department, Indiana University, Bloomington, Ind., to head of home economics department, Wittenberg College, Springfield, Ohio.

Brady, Elizabeth, from teacher of physical education, Roosevelt Public Elementary School, Buffalo, N. Y., to instructor in physical education, Los Angeles Progressive School, Hollywood, Calif.

Brandt, Grace, from teacher of English and Latin, High School, Avon, S. D., to assistant librarian, Huron College, Huron, S. D.

Brassard, Alvira, from supervisor of kindergarten at Little Wanderer's Settlement House, Chicago, Ill., to first grade critic, Temple University, Philadelphia, Pa.

Brauer, Mrs. Irene S., from Public School, Palmerton, Pa., to first grade

critic, State Normal School, Willimantic, Conn.

Brennan, Alice M., appointed director, Center Academy, Brooklyn, N. Y.

Brickell, Helen, from dean of girls, High School, Emporia, Kan., to dean of girls, High School, Lansdowne, Pa.

Bridges, Doris A., from head of English department, High School, Sanford, Me., to teacher of English, High School, East Hartford, Conn.

Brietz, Miriam, from fourth grade teacher, Selma Graded School, Selma, N. C., to teacher of English, High School, Oxford, N. C.

Brooks, Fowler D., from associate in education, Johns Hopkins University, Baltimore, Md., to head of the department of education and psychology, DePauw University, Greencastle, Ind.

Brothers, Edmon Q., from dean, Arkansas City Junior College, Arkansas City, Kan., to dean, Junior College, Little Rock, Ark.

Brown, L. Enid, from psychologist, Masters School, Dobbs Ferry, N. Y., to school psychologist, Rogers Junior High School, Stamford, Conn.

Brown, Laurie, from teacher of textiles and clothing, Texarkana Junior College, Texarkana, Tex., to teacher of clothing, Western Maryland College, Westminster, Md.

Brown, Less H., from assistant head of English department, High School, Albany, N. Y., to head of English department, High School, Pelham, N. Y.

Bryan, Bernice, from Winona State Teachers College, Winona, Minn., to first grade teacher, Public Schools, Greenburgh, N. Y.

Buchanan, Beatrice C., from teacher of mathematics, Public Schools, Albany, N. Y., to teacher of mathematics, Beaver Country Day School, Chestnut Hill, Mass.

BuDahn, L. A., elected superintendent of schools, Pottsville Public Schools, Pottsville, Pa.

Buka, Ruth, from State Womans College, Valdosta, Ga., to head of German department, Elmira College, Elmira, N. Y.

Burgard, Madge J., from fine and industrial arts teacher, State Teachers College, Trenton, N. J., to teacher of manual training, Ethical Culture School, New York City.

Buros, Francis C., appointed director of research, Public Schools, White Plains, N. Y.

Burr, Marvin Y., elected principal, Elmwood School, East Orange, N. J.

Burr, Samuel Engle, from director of research, Public Schools, Lynn, Mass., to superintendent of schools, Glendale, Ohio.

Burrell, Lola, elected school psychologist, Public Schools, Rochester, N. Y.

Burtt, Jerome, from principal, High School, Grosse Point, Mich., to principal, High School of Commerce, Springfield, Mass.

Busbee, Vivian, from Mobile Public Schools, Mobile, Ala., to fifth grade teacher, Pelham Public Schools, Pelham, N. Y.

Bush, Catherine, from teacher of English and Latin, St. Mary's High School, St. Mary's, W. Va., to teacher of English and social sciences, High School, Weston, W. Va.

Butterfass, T. O., from teacher of Latin and German at Bellefonte Academy, Bellefonte, Pa., to teacher of German and English at Begota High School, Begota, N. J.

Cahalan, K. Genevieve, from teacher of English, French, and Latin, High School, Gainesville, N. Y., to teacher of English, Central High School, Floral Park, L. I.

Caldwell, William A., from instructor in physical education, Dalton School, New York City, to director of health and physical education, Normal School, Keene, N. H.

Campbell, Raymond G., appointed assistant professor of education, Oklahoma A. & M. College, Stillwater, Okla.

Carp, Bernard, from student, Teachers College, to grade teacher and assistant in music, Ethical Culture School, Brooklyn, N. Y.

Carnes, Myrtle N., from city schools, Stockton, Calif., to third grade, State Normal School, Jersey City, N. J.

Carpenter, Florence, from instructor in music, Public Schools, Knott's Island, N. C., to instructor in music, State Teachers College, East Stroudsburg, Pa.

Carrier, Norma, from teacher of geography, Junior High School, Woodmere, L. I., to vocational guidance supervisor, Junior and Senior High School, Summit, N. J.

Carroll, Herbert A., from research assistant in educational psychology, Teachers College, Columbia University, to assistant professor of educational psychology, University of Minnesota, Minneapolis, Minn.

Carter, Lucy L., from instructor in costume design, and head of art department, Edinburg Jr. College, Edinburg, Tex., to instructor in design, Oklahoma College for Women, Chickasha, Okla.

Cassidy, Leora E., from principal and teacher of history, High School, Warren, Minn., to adviser and teacher of history, Northrup Collegiate School, Minneapolis, Minn.

Caton, Eda M., from teacher of home economics, John Adams High School, Cleveland, Ohio, to supervisor of home economics, State Teachers College, Millersville, Pa.

Chandler, Marie, from Ouachita College, Arkadelphia, Ark., to teacher of French, Haddon Heights High School, Haddon Heights, N. J.

Cheyette, Irving, from teacher of music, Horace Mann School, to teacher of band and orchestra, Lincoln School, Teachers College, New York City.

Christensen, Ethel, from Scarsdale, N. Y., to sixth grade critic, State Teachers College, Fredonia, N. Y.

Christy, Van, from glee club director, State Teachers College, Hays, Kan., to teacher of music, Horace Mann School for Boys, New York City.

Church, H. H., from principal, Toronto High School, Toronto, Ohio, to principal, Senior-Junior High School, Freemont, Ohio.

Clark, Ruth Mari, from assistant art supervisor, Board of Education, Dayton, Ohio, to teacher of art, Great Neck High School, Great Neck, N. Y.

Cochran, Mabel Claire, from Ambridge Public Schools, Ambridge, Pa., to elementary teacher in Public School, Yonkers, N. Y.

Collins, Phyllis, to instructor in English, Horace Mann School, New York City.

Conahey, Nora, from commercial teacher, High School, Metuchen, N. J., to commercial teacher, High School, Plainfield, N. J.

Connolly, Marion, to social worker, Catholic Home Bureau for Dependent Children, New York City.

Copenhaver, Elena, from teacher of English and dramatics, Boyden High School, Salisbury, N. C., to business and industrial secretary, Y. W. C. A., Knoxville, Tenn.

Coppens, Verle Frances, appointed professor of education, State Teachers College, Loch Haven, Pa.

Coe, Lulu Edna, from instructor in piano, Bucknell School of Music, Lewisburg, Pa., to assistant dean of women, State Teachers College, Harrisonburg, Va.

Cooper, Lenna, from dietitian, University of Michigan, Ann Arbor, Mich., to dietitian, Montefiore Hospital, New York City.

Cox, Anna, to fifth grade critic, Richmond, Ky.

Cox, Mrs. Maude D., from director of religious education, Federation of Churches, Cleveland, Ohio, to supervisor, vocational religious education school, Brooklyn Federation of Churches, Brooklyn, N. Y.

Crandall, Lola Marion, appointed executive secretary, Mental Health Clinic, Reading, Pa.

Crane, Frances D., from teacher of physical education and English, High School, Walla Walla, Wash., to super-

visor of physical education, Public Schools, Cedar Rapids, Mich.

Crawford, Pearl B., from director of nursery school, Institute of Child Welfare, University of California, Berkeley, Calif., to field worker in parental education, Alabama College, Montevallo, Ala.

Creaser, Bernice, from head of the mathematical department, High School, Hastings, Mich., to instructor in mathematics, High School, Grand Rapids, Mich.

Creasy, Harryette, from teacher of French, Cedar Falls, Iowa, to instructor in English and psychology, Skidmore College, Saratoga Springs, N. Y.

Crickenberger, Cecil H., appointed teacher of history, Alexander Hamilton High School, Elmsford, N. Y.

Crump, Robert Edward, elected president, Oklahoma Baptist University, Shawnee, Okla.

Cummings, Dorothy, from teacher of general science and mathematics, Van Buren High School, Van Buren, Ark., to instructor in chemistry, Skidmore College, Saratoga Springs, N. Y.

Cummings, Mildred, from assistant county home demonstration agent, Little Rock, Ark., to nutrition worker, Onondaga Health Association, Syracuse, N. Y.

Curran, Pauline, from Lincoln School, New York City, to first grade teacher, Park School, Cleveland, Ohio.

DaCosta, Helen, to director of courses in recreation, playground, and community, College of William and Mary, Richmond, Va.

Dahlberg, Hatty R., from instructor in foods and cookery, Stout Institute, Menomonie, Wis., to instructor in foods, Pennsylvania State College, State College, Pa.

Daughrity, Kenneth, from instructor in English, Alabama Polytechnic Institute, Auburn, Ala., to head of English department, Delta State Teachers College, Cleveland, Miss.

Davidson, Joseph, from teacher of speech correction, Hebrew Orphan Asylum, New York City, to teacher of public speaking, Brooklyn C. C. N. Y., Brooklyn, N. Y.

Davidson, Marion S., to teacher of history, Junior High School, Mountain Lakes, N. J.

Davis, Pauline, from East Texas State Teachers College, Commerce, Tex., to fifth and sixth grades critic, University of Ohio, Athens, Ohio.

Davis, Ruth, from assistant in physical education department, Horace Mann School, New York City, to instructor in physical education, University of Missouri, Columbia, Mo.

Davison, Viola W., from Olcott School, Bernardsville, N. J., to third and fourth grade teacher, Flushing Progressive School, Flushing, N. Y.

Day, Grace A., to supervisor of grades, Pottstown Public Schools, Pottstown, Pa.

Dean, Annice, from teacher of music, public schools, Brecksville, Ohio, to supervisor of music, Public Schools, Haddon Heights, N. J.

DeBrodes, Pauline, from teaching private lessons in New York City, to teacher of French at the Punahou School, Honolulu, Hawaii.

DeHart, Dorothy, from assistant dietitian, Fifth Avenue Hospital, New York City, to assistant dietitian, Roosevelt Hospital, New York City.

DeLand, Clara, from Allen School, Lansing, Mich., to special classroom critic teacher, Ohio University, Athens, Ohio.

Dengler, C. F., appointed supervising principal, Public Schools, Palmyra, N. J.

Dengler, Josephine, from assistant in faculty cafeteria, Teachers College, Columbia University, to assistant in cafeteria, Womans College, University of Delaware, Newark, Del.

Detweiler, Dorothy Ellen, appointed teacher of English and home economics, Colegio Internacional, Monterey, Mex.

Dewsnap, Clara G., from Ethical Culture School, 33 Central Park West, New York City, to elementary supervisor, Friends School, Wilmington, Del.

Dick, Refa, from critic teacher, Michigan State Normal School, Ypsilanti, Mich., to teacher of social sciences, Junior High School, Cleveland Heights, Ohio.

Dinwiddie, Werdra, from instructor in mathematics, Roosevelt Junior High School, Oklahoma City, Okla., to teacher of mathematics, Stamford High School, Stamford, N. Y.

Dix, John P., from teacher, Roseland Grammar School, Roseland, N. J., to high school instructor, High School, Kansas City, Mo.

Dodds, Mary K., from director of art, State Normal School, Castleton, Vt., to teacher of fine arts, Junior High School, Mountain Lakes, N. J.

Dorn, Mabel C., to teacher of second grade, Public Schools, Glencoe, Ill.

Dorr, Esther Louise, to nursery school teacher at Bethlehem Day Nursery, New York City.

Douglas, Henry P., from Seabreeze Private School, Daytona Beach, Fla., to principal, American Indian Institute, Wichita, Kan.

Dow, Margaret G., to Nursery School, University of Michigan Elementary School, Ann Arbor, Mich.

Doyle, Anastasia, from assistant to the dean of women, New Jersey College for Women, New Brunswick, N. J., to director of hall, Leland Stanford University, Palo Alto, Calif.

Drake, C. Elwood, from Public Schools, Montclair, N. J., to junior specialist on school organization, U. S. Federal Survey of Secondary Education, Washington, D. C.

Drum, Edith L., from teacher of home economics, Borough Schools, Mendham, N. J., to teacher of home economics, Public Schools, Passaic, N. J.

Duncan, R. T., from instructor in music, Simmons University, Louisville, Ky., to instructor in public school music, Howard University, Washington, D. C.

Dunlap, Mabel, from head of textiles and clothing department, Stout Institute, Menomonie, Wis., to professor of clothing, Spelman College, Atlanta, Ga.

Dupre, Margaret, from instructor in science, Junior High School, Waco, Tex., to instructor in bacteriology and physiological chemistry, New York State Teachers College, Buffalo, N. Y.

Duxbury, Margaret, from practice teacher, Ethical Culture High School, New York, to instructor in science, St. Mary's Hall, Faribault, Mo.

Earl, Elizabeth, from teacher of mathematics, Tracy High School, Tracy, Minn., to teacher of physical education, The Ellis School, Pittsburgh, Pa.

Eaton, J. Vida, from teacher of science and assistant principal, Lawrenceville High School, Lawrenceville, Pa., to teacher of biology, Batton High School, Elizabeth, N. J.

Eberhardt, Harold C., from coach, and hygiene instructor, Senior High School, Kearney, Neb., to high school coach and physical education instructor, Senior High School, Blue Island, Ill.

Ebert, Cora, from Teachers College, Winona, Minn., to critic teacher of the eighth grade, Western State Teachers College, Kalamazoo, Mich.

Ekas, Merle P., from research assistant, Carnegie Institute, Pittsburgh, Pa., to supervisor in the Division of Educational Research and Results, City of Philadelphia, Philadelphia, Pa.

Ellington, Grace E., to kindergarten and nursery school teacher, Out-of-Door School, Sarasota, Fla.

Elliott, Edna M., from orthogenic work at Fourth Street School, Midland, Pa., to orthogenic work at the Cleveland Public Schools, Cleveland, Ohio.

Elliott, Irene C., from State Teachers College, Slippery Rock, Pa., to critic teacher at Ohio University, Athens, Ohio.

Elliott, Irene M., from Berkeley Institute, Brooklyn, N. Y., to senior teacher first and second grades at Berkeley Institute, Brooklyn, N. Y.

Ellison, Grace F., from principal of Girls High School, Chengtu, China, to director of residence hall, New Jersey College for Women, New Brunswick, N. J.

Elsbree, Oliver W., from associate in history, Yale University, New Haven, Conn., to assistant professor of history, University of Pittsburgh, Pittsburgh, Pa.

Elwell, Mary F., from instructor in science, high school, Grand Forks, N. D., to critic teacher in science, State Normal School, Willimantic, Conn.

Erickson, Gladys M., from public schools, Battle Creek, Mich., to kindergarten critic teacher, Michigan State Normal College, Ypsilanti, Mich.

Estabrook, Irene, from public schools, Okmulgee, Okla., to elementary supervisor in Canal Zone Schools, Balboa Heights, Canal Zone.

Everett, Samuel H., appointed research assistant, Lincoln School, New York City.

Fairbanks, Grace, from Brookside School, Montclair, N. J., to second grade, Public School, Garden City, N. Y.

Field, Eleanore A., elected principal, Progressive School of Los Angeles, Hollywood, Calif.

Fikstad, Elfrida, from nutrition worker, Home Bureau, Mineola, N. Y., to lunchroom assistant, Schrafft's, New York City.

Filean, Ellen, from principal of high school, Independence, Ia., to teacher of Latin at Franklin Junior High School, Highland Park, N. J.

Fleming, Beatrice B., appointed social science teacher, Temple University, Philadelphia, Pa.

Flickinger, Edward W., from instructor in science, Westhampton Beach High School, Westhampton Beach, N. Y., to instructor in science, Washington Irving High School, Tarrytown, N. Y.

Flint, Norman W., from teacher in the grades, rural school, Cohocton, N. Y., to instructor in English, home study department, Columbia University.

Fogarty, Dora E., from Union School, West Haven, Conn., to critic teacher, Danbury State Normal School, Danbury, Conn.

Foster, Grace R., from part-time assistant in history of education, Teachers College, Columbia University, to head of residence hall, Colby College, Waterville, Me.

Foster, Isabelle, appointed instructor in music, Hollins College, Hollins, Va.

Foulds, K. Marie, from supervisor of art, public schools, Streator, Ill., to head of art department, Indiana University, Bloomington, Ind.

Fowler, Edna E., from instructor in art, University of Delaware, Newark, Del., to assistant professor of art, University of Minnesota, St. Paul, Minn.

Fraser, Bird, from dean of women, State Teachers College, Mankato, Minn., to dean of women, State Teachers College, Trenton, N. J.

Freer, Mary L., from Rockville Center Public School, Rockville Center, N. Y., to first grade critic, State Normal School, Danbury, Conn.

Fuller, Frances Anne, from student at Teachers College, Columbia University, to assistant professor of physical education, Northeast Missouri State Teachers College, Kirksville, Mo.

Fuller, Margaret M., from instructor in music, Junior High School, Minot, N. D., to instructor in music, Junior High School, Elizabeth, N. J.

Gamble, Dorothy, appointed teacher of English, Junior High School, Maryville, Tenn.

Gamble, Joseph N., from assistant to the director, Institute of School Experimentation, Teachers College, Columbia University, to headmaster, The Foxwood School, Flushing, N. Y.

Gardner, Elizabeth, from teacher of English and dramatics, Crisfield High School, Crisfield, Md., to teacher of speech and dramatics, High School, North Plainfield, N. J.

Garrett, Sallie, from University of California, Los Angeles, Calif., to primary supervisor, City Schools, East Chicago, Ind.

Garthe, Edith L., from teacher of English, High School, Walden, N. Y., to teacher of English, The Shippen School, Lancaster, Pa.

Garvin, Josephine, from assistant in swimming, Teachers College, Columbia University, to instructor in swimming, Michigan State College, East Lansing, Mich.

Gates, Lillian, from instructor in home economics, State Normal School, Farmington, Me., to director of nursery school, Temple University, Philadelphia, Pa.

Gedney, Muriel, from Rye Neck School, Mamaroneck, N. Y., to third grade teacher at Stephenson School, New Rochelle, N. Y.

Gentry, Lillian, from assistant at Horace Mann School, Teachers College, New York City, to first grade teacher, Union Free School, Scarsdale, N. Y.

Gillespie, Mary, from director of music, Women's College, University of Delaware, Newark, Del., to head of the conservatory, Lebanon College Conservatory, Annville, Pa.

Gillott, Rita Louise, from Kingston Township High School, Tuckerville, Pa., to teacher of Spanish, Lyndhurst High School, Lyndhurst, N. J.

Giltner, Frances, from teacher of English and speech, High School, Elliott, Iowa, to teacher of English, Public Schools, Iron Mountain, Mich.

Gingrich, Esther, from teacher of art in the grades, Holmes School, Spokane, Wash., to art instructor, State Normal School, Cheney, Wash.

Gleiser, Fern, from part-time instructor in institutional management, Teachers College, Columbia University, to assistant professor of institutional administration, Drexel Institute, Philadelphia, Pa.

Glenn, Vanessa, from instructor in health education, State Teachers College, West Chester, Pa., to instructor in physical and health education, High School, Shippensburg, Pa.

Glenn, William E., from instructor in science, Cambridge High School, Cambridge, Ohio, to instructor in general science, Roxboro Junior High School, Cleveland Heights, Ohio.

Gochnauer, Annie, from State Teachers College, Slippery Rock, Pa., to first grade critic at Ohio University, Athens, Ohio.

Godfrey, Mary E., appointed psychologist, Public Schools, Stamford, Conn.

Gogate, R. V., from lecturer in education, New Jersey Law School, Newark, N. J., to principal, Beverly Academy, Brooklyn, N. Y.

Goodlett, Emily, from supply director of training and instructor in education, State Teachers College, Harrisonburg, Va., to instructor in elementary education, University of Tennessee Junior College, Martin, Tenn.

Goodroe, Geraldine, from teacher of English, Washington Irving Junior High School, Schenectady, N. Y., to teacher of English, Junior High School, Tarrytown, N. Y.

Goodwin, Janiece, from head of the physical education department, High School, White Plains, N. Y., to instructor in physical education, State Teachers College, West Chester, Pa.

Gordon, Elizabeth Hope, from head of English department, Lake Forest College, Lake Forest, Ill., to associate professor of English, Muskingum College, New Concord, Ohio.

Gove, Gertrude, L., from Haverford Friends' School, Haverford, Pa., to third grade teacher, Metairie Park Country Day School, New Orleans, La.

Graham, Blanche E. O., from instructor of health education, North Carolina College for Women, Greensboro, N. C., to instructor in health education, Trenton State Teachers College, Trenton, N. J.

Grauel, Florence H. N., elected principal, El Paso School for Girls, El Paso, Tex.

Graves, E. Irene, from teacher of general science and biology, Madison Junior High School, Syracuse, N. Y., to instructor in biology, State Normal School, Bridgewater, Mass.

Gray, Dorothy, appointed critic teacher for history, High School, Mount Pleasant, Mich.

[*Continued in November Record*]

ALUMNI NOTES

TEACHERS COLLEGE ALUMNI ASSOCIATION OFFICERS

President: Dr. J. CAYCE MORRISON, Assistant Commissioner for Elementary Education, New York State Department of Education, Albany, N. Y.
First Vice-President: Dr. FANNIE W. DUNN, Assistant Professor of Education, Teachers College.
Second Vice-President: Dr. VELDA C. BAMESBERGER, Director of Elementary Education, Board of Education, Toledo, Ohio.
Recording Secretary: Miss MARY LEWIS, Teacher in Horace Mann School, Teachers College.
Treasurer: Mr. CLYDE R. MILLER, Director, Bureau of Educational Service, Teachers College.
Members-at-Large: Mr. FRANK MOREY, Supervising Principal of Schools, Camp Hill, Pa.
Miss EFFIE TAYLOR, Professor of Psychiatric Nursing, School of Nursing, Yale University, New Haven, Conn.
Miss MARION SHERIDAN, 711 Orange Street, New Haven, Conn.
Alumni Trustees:
DR. J. CAYCE MORRISON, Assistant Commissioner for Elementary Education, New York State Department of Education, Albany, N. Y.
Miss ANNA E. RICHARDSON, Field Worker for American Home Economics Association, 617 Mills Building, Washington, D. C.
Alumni Office: Teachers College, 525 West 120th Street, New York City.

Address all communications to MARGARET E. SOBER,
General Secretary of Alumni Association, Teachers College, New York City.

ANNOUNCEMENT OF ALUMNI ELECTION

ALUMNI TRUSTEE

DR. J. CAYCE MORRISON

Assistant Commissioner for
Elementary Education, New York
State Department of Education
Albany, N. Y.

The Alumni Association of Teachers College takes pleasure in welcoming Dr. Morrison to office as Alumni Trustee for 1930-1932

Clara E. Waln (A.M. 1928) is instructor in the Christ Hospital School of Nursing, Cincinnati, Ohio. Helen J. Leader (B.S. 1929) is superintendent of nurses and principal of the School of Nursing at the same place.

Professor Fletcher Harper Swift (Ph.D. 1905), of the School of Education of the University of California at Berkeley, delivered an address on April 16 in connection with the exercises commemorating the twenty-fifth anniversary

of the establishment of the College of Education of the University of Minnesota. The subject of his address was "The Increasing Professionalization of Educational Workers." On April 17 Professor Swift addressed the School of Education of the University of Wisconsin at Madison on "The Relation of the National Government to Public Educational Institutions, A Comparison of American and European Policies."

Coral Shelley (graduate student, music department, 1928-29) is music supervisor at Farmington, N. M.

Agnes Tilson (Ph.D. 1929) taught child care and training and supervised the nursery school at the University of Colorado, Boulder, Colo., during the Summer Session of 1930.

Edith Sauer (B.S. 1929) has been principal of Carew Street Elementary School, Springfield, Mass., since 1925.

Frederick Schultz (A.M. 1924) is principal of Elementary School No. 24, Buffalo, N. Y.

Harold S. Cook (A.M. 1929) enters on his sixth year as principal of Macdonald College High School, the practice school connected with the School for Teachers.

Florence M. Teagarden (Ph.D. 1924) wrote several articles which were published last year. She gave a series of eight radio talks on Home Problems of Parents over the University of Pittsburgh studio of KDKA. She also taught and did clinical work at the University of Pittsburgh.

Henrietta Froehlke (B.S. 1926) has been superintendent of nurses at the University of Kansas School of Nursing (Bell Memorial Hospital), Kansas City, Kan., since July 1, 1927.

Sylvia L. Treat (B.S. 1926) has been superintendent of nurses, Bethany Hospital, Kansas City, Kan., since June 1, 1927.

H. C. Pannell (A.M. 1925) is state supervisor of teacher training for Alabama. He is engaged in completing his study, "The Preparation and Work of Alabama High School Teachers."

Mildred S. Bruckheimer (A.M. 1926) is director for women in the physical education department at the Ohio Northern University, Ada, Ohio.

Gertrude Walker (A.M. 1928) is instructor in foods and nutrition, Black Hills Teachers College, Spearfish, S. D.

Gladys Branegan (Ph.D. 1929) taught home economics methods courses in the Pennsylvania State College last summer. She has returned to her position as head of the home economics department of Montana State College, Bozeman, Mont.

Ruth Powell (B.S. 1925) has been social director and instructor in home economics at Maryland State Normal School at Salisbury since September, 1925.

Nellie A. Hyde (A.M. 1927) is head of the home economics department of Norfolk High School, Norfolk, Neb. She has done some very interesting work with boys' foods classes.

Fred Engelhardt (A.M. 1915; Ph.D. 1925) has recently conducted an extensive survey of Gustavus Adolphus College and Minnesota College for the Minnesota Swedish Lutheran Conference. He has been appointed to direct that aspect of the National Secondary Educational Survey which has to do with the organization for the administration and supervision of secondary schools.

G. L. Koonsman (candidate for Ph.D.), formerly superintendent of schools at Primero, Colo., has been elected superintendent of schools at Brighton, Ohio.

I. D. Mahuron (A.M. 1928), formerly superintendent of schools at Sopris, Colo., has been elected principal of a new junior high school at Amarillo, Tex.

J. W. Baldwin (Ph.D. 1929) is still connected with the School of Education, University of Texas. He taught there the first six weeks of the summer session and at North Texas State Teachers College, Denton, Tex., during the second term of summer school.

Elizabeth Hendry (A.M. 1927) is director of the School of Home Economics, Hampton Institute, Va.

Harold H. Mitchell, M.D. (student 1922) is a member of the President's Committee of the American Child Health Association which is to make a child health inquiry in Porto Rico.

Ida B. Lacey (B.S. 1928), of Willimantic, Conn., had published by The Macmillan Company in April, 1930, a book on *Light—Then and Now*, a history of artificial lighting for study in third and fourth grades.

Florence E. Fell (A.M. 1923) is head of the mathematics department, East High School, Green Bay, Wis.

Ruth E. Mason (A.M. 1927) is in her fourth year at the University of California Hospital, San Francisco, as chief instructor of the training school for nurses.

Helen Bryant Rusby (A.M. 1927) is English teacher and "professional mother" to small boys who are boarding in the American Institute in La Paz, Bolivia. She has eighteen boys out of school hours and about 150 English pupils, both sexes, from five to seventeen years of age, in grades 2 to 6, in her daily classes. Miss Rusby is a missionary under the Board of Foreign Missions of the Methodist Episcopal Church. The Board is trying to run its school according to the most approved methods, even though with meager equipment.

William L. Schaaf (Ph.D. 1928), Mount Vernon, N. Y., reports the following books published or in press: *Progressive Business Arithmetic*, an introductory course for business schools, junior high schools, etc., published by D. C. Heath and Co., 1930; *Junior High School Mathematics for Teachers*, a professional subject matter textbook for students and teachers, published by Johnson Publishing Co.

Archie M. Palmer (A.M. 1927) was editor of *The Liberal Arts College Movement* which was published last spring and contained proceedings of the Conference of Liberal Arts Colleges held in Chicago, March 18-20. He was one of the speakers and was elected secretary of the Conference.

Robert S. Anderson (B.A. 1929), principal of the Keystone School, Upper Darby, Pa., was awarded the Nathan C. Schaeffer scholarship for the scholastic year 1930-31 at the May meeting of the Pennsylvania State Council of Education.

Robert O. Evans (A.M. 1924) was elected superintendent of schools at Helena, Mont., for a period of three years beginning August 1, 1929. Mr. Evans went to Helena after five years as superintendent of schools of a large consolidated school comprising four townships at Mott, N. D. He was responsible there for a new up-to-date senior high school which was dedicated in December 1929.

Carl W. Ziegler (Ph.D. 1928) is acting head of the department of education at Lafayette College, in Easton, Pa.

Nell Grant Nicholson (B.S. 1921) returned to St. Louis in September, 1923 after a year as seventh-grade teacher in

the Ethical Culture School, New York City. She writes: "I have been given the work of reconstruction in many of the old districts of the city. This is difficult work but extremely interesting."

Ignatius Donnelly Taubaneck (A.M. 1927) is head of the department of social studies, senior high school, and senior adviser, Bronxville, N. Y. He is in part-time attendance at Teachers College.

W. Henry Grant (student 1904-05) is secretary of the Board of Trustees of Lingnan University, China.

Roswell C. Puckett (A.M. 1923), director of high schools, Board of Education, Toledo, Ohio, gave courses in high school administration and extra-curricular activities in the high school at both sessions of the State University of Iowa summer school. This was his sixth summer there.

A. P. Horn (A.M. 1925) is principal of Public School No. 15, Jersey City. He received his Ph.D. degree from the New York University, February, 1930.

Harriet F. Young (B.S. 1924) is executive director of the Visiting Nurse Association, Wilkes-Barre, Pa.

Jacob S. Orleans (Ph.D. 1926) had published recently by the World Book Company: Orleans Geometry Prognosis Test; Orleans Algebra Prognosis Test; Luria-Orleans Modern Language Prognosis Test; Coxe-Orleans Prognosis Test of Teaching Ability.

Marguerite Butterfield (B.S. 1927) is teaching the third grade demonstration class, Potsdam State Normal School, Potsdam, N. Y.

Homer F. Barnes (Ph.D. 1930) has recently been appointed principal of the boys' boarding school at The Kamehameha Schools, Honolulu, T. H. He has completed his dissertation, "Charles Fenno Hoffman," for the Ph.D. degree at Columbia University.

Almeda May Janney (A.M. 1915) is still associate professor of history, and academic adviser to freshman and sophomore women at the University of the City of Toledo.

Harriet M. Barthelmess (B.S. 1921; A.M. 1922) of the Bureau of Research of Philadelphia has been engaged by the Committee on Medical Care for Children of the White House Conference on Child Health and Protection as a technical consultant on the construction of questionnaires.

T. T. Allen (A.M. 1920) is still president of the State Teachers College at East Stroudsburg and member of the State Retirement Board.

Amy J. DeMay (B.S. 1926; A.M. 1928) is co-author of the DeMay-McCall Rapid Survey Tests in Fractions and DeMay-McCall Standard Test Lessons in Fractions, published by the Bureau of Publications, Teachers College, Columbia University.

W. C. Ruediger (Ph.D. 1907) of the George Washington University, Washington, D. C. gave courses in education in the University of Southern California, Los Angeles during the summer of 1930.

Alice Van de Voort (Ph.D. 1928) has returned for her sixth year at the Women's College of the University of Delaware, where she is associate professor of education. She taught in the University of Delaware summer school. She is author of an article, "Trends and Tendencies in the Teaching of Chemistry," which was published in the February *Journal of Chemical Education.*

Samuel A. Rutledge (Ph.D. 1930) of Jamaica Training School for Teachers, New York City, taught three courses in

teachers college administration during the Summer Session at George Peabody College for Teachers, Nashville, Tenn. Dr. Rutledge's dissertation, *The Development of Guiding Principles for the Administration of Teachers Colleges and Normal Schools*, is being published by the Bureau of Publications, Teachers College, Columbia University.

R. L. Bunting (A.M. 1927) was recently appointed director of the demonstration school at Sam Houston State Teachers College, Huntsville, Tex., to succeed Jessie Newell (A.M. 1929) who was made dean of women of the same college.

Conway L. Rhyne (A.M. 1925) is vice-principal of the Amos Hiatt Junior High School, Des Moines, Iowa. He was elected president of visual education round table section of Iowa State Teachers Association and president of vocational guidance section of Central District meeting of the above association at the meeting in March.

Lucile Marine (Ph.D. 1929) is associate professor of education at Antioch College.

Irma Nevins (A.M. 1928) is director of women's physical education, Kansas State Teachers College, Pittsburg, Kan.

C. B. Manley (A.M. 1929) is chairman of the Teachers College former students and alumni in the Missouri State Teachers Association for this year. A meeting will be held in Kansas City at the time of the meeting of the State Teachers Association in November.

Edna Postlethwaite (A.M. 1922) is a teacher of mathematics and swimming at Bradford Academy, Bradford, Mass.

Henrietta S. Purnell (B.S. 1927) has been reappointed in the art department of the State Teachers College, Kutztown, Pa.

Wade C. Fowler (Summer Session 1926 and 1929) is in residence at Teachers College, working toward the Ph.D. degree.

Katherine E. Wheeling (A.M. 1922) is collaborating with President A. R. Brubacher of New York State College for Teachers in writing a composition textbook for high school English. The book is *Composition and Grammar* and it will be published by Charles E. Merrill Company. Miss Wheeling is head of the English department in the laboratory school and assistant professor of English in the college.

GEORGIA CLUB DINNER

The annual Teachers College-Columbia University dinner was held at the Dempsey Hotel, Macon, Ga., at the time of the meeting of the Georgia Education Association. The president, J. W. Griffith, principal of 35th Street School, Savannah, presided. Dr. William John Cooper, U. S. Commissioner of Education, was the honor guest and made the principal address, in which he outlined the aims and objectives of the U. S. Department of Education in Washington. Dr. Gordon G. Singleton, past president, gave a most interesting report of his recent visit to Teachers College. He stressed the friendliness shown on the part of the faculty members. Superintendents M. L. Lester and Knox Walker, both past presidents, were also present. The officers elected for the year were: president, Leila Bunce, supervisor home economics, Fulton County High Schools, Atlanta; vice-president, Mark Smith, superintendent of public schools, Thomaston; secretary-treasurer, J. C. Dixon, supervisor of school administration, State Department of Education.

PHILADELPHIA CLUB DINNER

On April 5, The Teachers College Club of Philadelphia held its annual luncheon meeting at the Hotel Walton. Sixty-two members were present, and enjoyed and appreciated the talk given by Dr. Thomas Alexander as guest of honor. At a short business meeting, the following officers were elected for the year 1930-31: president, Dr. Francis Garver; vice-president, Mabel Hancock; secretary-treasurer, Margaret A. Schlipf; executive committee, Professor Jesse Scott, Mrs. Jessie Dodderer, Mrs. Gertrude Duncan, Clara Pancake, and Jane Peoples.

MOVIE OF MEN'S DINNER

A motion picture film was made of typical scenes at the Men's T-Bone Steak Dinner held on August 9 at the Horace Mann School for Boys.

Alumni organizations desiring to use this film may obtain the loan of it by writing to Clyde R. Miller, Director of the Bureau of Educational Service, 117 Russell Hall, Teachers College, Columbia University. The film is non-inflammable and can be used in standard sized 35-M projection machines. Alumni organizations using the film will be asked to pay express or mail charges and to return the film promptly to the Bureau of Educational Service.